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Attitudes, Involvement and Consumer Behaviour: A Longitudinal Study in Fast Moving Consumer Goods Markets

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ABSTRACT

An empirical study is reported which attempts to validate two key theoretical consequences of consumer involvement: differences in brand buying behaviour and differences in the type of decision processing undertaken.

A literature review is provided which traces the history of involvement and identifies a suitable contemporary framework. Work on brand loyalty and attitude modelling is also reviewed and suitable frameworks identified.

A pilot stage is reported which shows how involvement measurement techniques can be adapted for use among frequently purchased products. Results from reliability testing and differences in the mean levels of involvement for six grocery product categories are reported.

A main fieldwork phase is reported where a consumer panel was operated for four months (n=191). Data on levels of involvement, decision making and purchasing behaviour were collected from the panel using surveys and diary sheets for three product categories: newspapers, breakfast cereals and paper kitchen towels.

The relationship between sources of involvement and buying behaviour was analysed using LISREL. A model of involvement is identified which suggests that brand involvement is generated by the risks associated with making a poor brand choice and the levels of pleasure associated with the product field. For newspapers, the modelling identifies a significant (but small) relationship between involvement and devotion of purchasing to a limited number of brands. This relationship was not significant in the other two product fields. Further analysis identifies four classifications of buying behaviour (habitual, loyal, switchers, and variety seekers) which helps to explain why the linear relationship is so weak.

A second analysis phase is reported which examines the utility of the Extended Fishbein Model for each of the three product categories. This analysis supports the notion that decision processing is more extensive where the level of product involvement is higher.

The theoretical and managerial implications of the findings are discussed. Strengths and limitations of the research design are reviewed.

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NOTATION

STANDARD LISREL NOTATION

The Greek Alphabet			Other Notation	
			Example	Meaning
α	A	alpha	$\mathbf{x}$	Column vector
β	B	beta	$\mathbf{x}'$	Row vector
γ	Γ	gamma	$\mathbf{X}$	Matrix
δ	Δ	delta	$\mathbf{X}'$	Matrix transpose
ϵ	E	Epsilon	$\mathbf{X}^{-1}$	Matrix inverse
ζ	Z	zeta	x_{ij}	Matrix element
η	H	eta	$\lVert\mathbf{X}\rVert$	Determinant of $\mathbf{X}$
θ	Θ	theta	$\mathrm{tr}(\mathbf{X})$	Trace of $\mathbf{X}$
ι	I	iota	Greek letters	Population parameters,
κ	K	kappa		latent random variables
λ	Λ	lambda	Roman letters	Observed random variables
μ	M	mu		
ν	N	nu	Typical LISREL Notation	
ξ	Ξ	xi, ksi	x, y	Observed variables
o	O	omicron	ξ, η	Latent variables
π	Π	pi	ζ, δ, ϵ	Error variables
ρ	P	rho		
σ	Σ	sigma	Λ_y, Λ_x	Factor loadings
τ	T	tau	B, Γ	Structural parameters
υ	Υ	upsilon	Φ, Ψ	Covariance matrices
ϕ	Φ	phi	Θ_ϵ, Θ_δ	Error covariance matrices
χ	X	chi		
ψ	Ψ	psi	$\hat{\Lambda}_x$	Estimate of Λ_x
ω	Ω	omega		

NOTATION (cont.)

OTHER ABBREVIATIONS USED IN STRUCTURAL MODEL DIAGRAMS AND MEASUREMENT EQUATIONS

Measurement Equations (pp. 94) and Figures 7.1 and 7.2

Symbol	Corresponding Questionnaire Item from Questionnaire No. 1.
y_1	(B1) I have a strong interest in:-
y_2	(B2) I would choose the following very carefully
y_3	(A7, A8, A9) If you couldn't get your favourite brand(s) at the store you had gone to for would you...
y_4	(A4) When buying the products how committed are you to buying your favourite brands, rather than an alternative brand?
y_5	Index derived from diary sheet data (see section 6.5.3)
x_1	(B6) I Would give myself great pleasure by purchasing
x_2	(B7) To buy the following would be like giving myself a present or treat
x_3	(B3) Using the following products helps me to express my personality
x_4	(B4) Knowing whether or not a person uses the following tells a lot about that person
x_5	(B11) The following are basically useful' products
x_6	(B5) You can tell a lot about a person from which brand they use of the following
x_7	(B8) I believe that different brands of the following would give different amounts of pleasure
x_8	(B9) All brands of the following would not be equally enjoyable

OTHER ABBREVIATIONS USED IN STRUCTURAL MODEL DIAGRAMS AND MEASUREMENT EQUATIONS (cont.)

Measurement Equations (pp. 94) and Figures 7.1 and 7.2

Symbol	Corresponding Questionnaire Item from Questionnaire No. 1.
x_9	(B10) No matter what brand you buy of the following you get the same amount of pleasure
x_{10}	(B12) When you buy the following it is not a big deal if you buy the wrong brand by mistake
x_{11}	(B13) It is very annoying to buy any of the following which aren't right
x_{12}	(B14) A bad buy of the following could bring you trouble

Figure 8.1

Symbol	Corresponding Questionnaire Item from Questionnaire No. 2.
y_1	(3.2) Bad - Good
y_2	(3.2) Beneficial - Harmful
y_3	(3.2) Rewarding - Punishing
y_4	(3.2) Unpleasant - Pleasant
y_5	(3.3) Most people who are important to me think that I should / should not buy my regular brand in the next month
y_6	(3.1) I will buy my regular national newspaper in the next month
y_7	Index derived from diary sheet (see section 8.2)
x_1	(3.4 & 3.5) Reading enjoyment
x_2	(3.6 & 3.7) Excuse to relax

OTHER ABBREVIATIONS USED IN STRUCTURAL MODEL DIAGRAMS AND MEASUREMENT EQUATIONS (cont.)

Figure 8.1 (cont.)

Symbol	Corresponding Questionnaire Item from Questionnaire No. 2.
x_3	(3.8 & 3.9) Keep up with the news
x_4	(3.10 & 3.11) Keep up with the sports results
x_5	(3.12 & 3.13) Unbiased
x_6	(3.14 & 3.15) Parents
x_7	(3.16 & 3.17) Spouse / Partner

Figure 8.2

Symbol	Corresponding Questionnaire Item from Questionnaire No. 2.
y_1	(1.2) Bad - Good
y_2	(1.2) Beneficial - Harmful
y_3	(1.2) Rewarding - Punishing
y_4	(1.2) Unpleasant - Pleasant
y_5	(1.3) Most people who are important to me think that I should / should not buy my regular brand in the next month
y_6	(1.1) I will but my regular brands of breakfast cereal in the next month
y_7	Index derived from diary sheet (see section 8.2)
x_1	(1.4 & 1.5) Tastes good
x_2	(1.6 & 1.7) Value for money
x_3	(1.8 & 1.9) Healthy food for breakfast

NOTATION (cont.)

OTHER ABBREVIATIONS USED IN STRUCTURAL MODEL DIAGRAMS AND MEASUREMENT EQUATIONS (cont.)

Figure 8.2 (cont.)

Symbol	Corresponding Questionnaire Item from Questionnaire No. 2.
x_4	(1.10 & 1.11) Children
x_5	(1.12 & 1.13) Partner

Figure 8.3

Symbol	Corresponding Questionnaire Item from Questionnaire No. 2.
y_1	(2.2) Bad - Good
y_2	(2.2) Beneficial - Harmful
y_3	(2.2) Rewarding - Punishing
y_4	(2.2) Unpleasant - Pleasant
y_5	(2.3) Most people who are important to me think that I should / should not buy my regular brand in the next month
y_6	(2.1) I will but my regular brands of kitchen towel in the next month
y_7	Index derived from diary sheet (see section 8.2)
x_1	(2.4 & 2.5) Matches kitchen
x_2	(2.6 & 2.7) In stock
x_3	(2.8 & 2.9) Conservationists

Attitudes, Involvement and Consumer Behaviour:
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1. INTRODUCTION

1.1 Overview of the Research

This thesis reports research into the motivation and behaviour of consumers with respect to frequently purchased grocery products. The research attempts to determine the motivations of consumers and relate these to actual purchasing behaviours within a generalised consumer behaviour framework.

The initial rationale for undertaking the study was an apparent paucity of empirical studies available for reference in the literature. A large number of **theoretical** frameworks are available to explain consumer motivations in grocery product purchasing behaviour but **published** empirical justification is scant, especially in UK markets. As the work progressed, a more extensive review of the literature also highlighted the need for many of the concepts to be operationalised prior to a study of any relationships.

Involvement[1] was selected for use in this study as a method of describing motivational states and the construct of brand loyalty[2] has been used as the key consumer behaviour reference variable. The involvement framework is based on Mittal and Lee (1989) and the framework for brand loyalty

[1] Broadly "the consumers motivational state of mind towards a product" Mittal 1989
[2] Brand loyalty is a complex construct with many conflicting definitions. In this work an operationalisation of a definition by Jacoby & Olson (1970) is ultimately used. In essence this suggests that brand loyalty consists of some psychological attachment to a preferred brand or set of brands <u>and</u> manifest support for these preferred brands.

follows Jacoby & Olson (1970). Further aspects of attitude theory are drawn from Ajzen and Fishbein (1980).

The central aim of this work was to determine whether a consumer's level of involvement is causally linked to their purchasing behaviour. Specifically whether higher levels of involvement lead to increased brand loyalty. In order to identify this relationship a multiplicity of sub-hypotheses were also necessary (on the whole relating to the measurement of the above constructs). A secondary aim was to understand the type of decision processing being undertaken in grocery product selection. These assertions can be expressed in the following two research questions which provide the basis for this research effort.

1. What (if any) is the relationship between the consumer's level of involvement and their repeat purchase behaviour for frequently purchased products within UK grocery markets?

2. What is the nature of the relationship between the consumer's level of involvement and the type of decision processing undertaken in product selection for frequently purchased products within UK grocery markets?

The empirical study described here focuses on three frequently purchased consumer products: breakfast cereals, kitchen towels and national newspapers. Results from two pilot surveys establish the measurement principles for the main study. The methodology used for the main study was a combination of surveys and a consumer panel with diary sheet recording. Surveys were used to elicit involvement levels and motivational states; panel recording was used to determine the actual purchases made in the subsequent four months.

The study supports the notion of a limited causal route between involvement and repeat purchase. This route is established using structural equation modelling (LISREL VII). The analysis also extends the framework used to describe repeat purchase behaviour, defining behaviour clusters along the dimensions of brand commitment and brand support. The nature of these clusters is described by analysis of the brand switching triggers reported by panel members. Further attitudinal analysis within the Ajzen and Fishbein framework is also reported which reveals differences in the styles of decision making for different grocery product categories with varying involvement levels.

1.2 Research Stages and Thesis Organisation

This thesis begins with a review of the consumer behaviour literature in three areas: involvement, repeat buying behaviour / brand loyalty, and attitude modelling. Perspectives are given at the end of the section of the philosophical roots of these areas of research. A critique of the literature is then reported which provides the justification for the specific focus of this study and a platform for methodological considerations.

The first empirical part of the study reported is a pilot phase which was used to determine the suitability of a model of involvement for frequently purchased products. This resulted in some modifications to the measuring device so a second pilot phase, a test re-test study of the measurement instrument, is reported.

Measurement details and methodological approach to the main study are reviewed. Details of the main surveys and panel recording are then given.

The analysis section firstly provides basic descriptive statistics on the panel and involvement levels. This is followed by a LISREL analysis of a model expressing Involvement and involvement antecedents as antecedents to brand support. This analysis is undertaken at 4 levels; once for the aggregate data and once for each of the three main product fields. This phase broadly supports the models but shows a large proportion of the variance in brand support unexplained. For this reason further analysis of the brand support dimensions is undertaken. A cluster analysis is reported showing the positioning of each of the respondents along the dimensions of brand commitment and brand support. This reveals two further clusters that could not be explained by the linear model. Further analysis, using panel members reported switching triggers[3] was undertaken to determine the nature of these clusters which helps to establish the cluster map as a format for understanding repeat buying behaviour in grocery purchasing. The final piece of analysis examines a Reasoned Action Theory (Fishbein & Ajzen) model for each of the product fields to help establish the decision processing style being undertaken with varying levels of product involvement. Although more difficult to put specific quantitative limits on, this piece of analysis broadly supports the idea that decision processing becomes more extensive as product involvement increases.

The thesis concludes with a critique of the research, examining the contribution the study makes to consumer behaviour theory and reviewing the deficiencies in the

[3] "Switching triggers" are panel members self reported motivations for changing brands on occasion when they indeed did change brands.

design of the study. Finally, the implications of the findings are critically reviewed and areas for further research suggested.

1.3 Justification for Undertaking the Research

There are two perspectives providing support for undertaking this study. The academic argument, advancement of our understanding of the consumer buying process and the commercial need stemming from economic investment in brand building exercises.

Academic Argument:

Central to the very existence of the discipline of consumer behaviour is the ability to explain consumer action. Researchers seek to explain how and why people do things - to explain the antecedents and motivation of consumer action (East 1990 pp. 1-3). This is a step which is logically prior to the central aims of marketing itself: the provision of the appropriate products and services to consumers (eg. Wills et al 1984 pp. 8-20). The literature review presented here reveals a paucity (in some cases a complete lack) of empirical studies which are able to establish relationships between consumer motivation towards a product (or towards the purchase of a product) and the resultant action. The main reason for this is that actual behaviour is rarely measured in studies of motivation (eg. Mittal and Lee (1989)). Where an attempt has been made at measuring behaviour it has often only been a surrogate, self report, approach that has been used (eg. Kapferer and Laurent (1984)). A second gap in the literature is studies of involvement among frequently purchased, grocery products. This gap is international but particularly noticeable in the UK. Without empirical studies of this kind it is impossible to build a generalised theory of consumer motivation for grocery product purchasing.

Commercial Argument:

McKinsey have estimated that around 23% of costs for a major food manufacturer were directly or indirectly attributable to building their brand's added values (Davis 1986). If consumers were not in some sense prepared to pay for this differentiating activity or if the differences were not sufficiently valued, they argue that there would not be the economic justification for either manufacturers or retailers engaging in expensive branding exercises. In other words, a consumer's motivation towards a brand must vary with marketing effort for it to be worthwhile differentiating the brand in the first place. Subsequently, **behaviour must also vary with motivation** for the brand building exercise to be worth while. It is this second point which forms the focus of the study detailed here ie. to validate a generalised framework for relating involvement with behaviour.

2. REVIEW OF THE LITERATURE

2.1 Scope

This literature review covers three main areas: consumer involvement, repeat buying theory / brand loyalty, and attitude modelling in consumer behaviour. Despite the fact that each of these three areas has received wide attention in the literature providing a structured review is a formidable task. This is particularly apposite of involvement and brand loyalty; defining and operationalising both these constructs has proved particularly troublesome for academic researchers. The problem is eloquently summarised by Muncy and Hunt in their 1984 review of involvement:

> "Confusion regarding the exact domain of a construct being studied can result in a whole stream of research becoming impotent. A classic example of this has been brand loyalty research. After reviewing over 300 brand loyalty studies, Jacoby and Chestnut (1978) concluded that the area has been kept alive "more because of promise than result" (p.119)........Those investigating involvement must be careful not to fall into the same trap."

The breadth of studies available and the long history of explanation makes an exhaustive review of the literature in these two areas impractical here. However, a brief review of the historical bases of involvement research is provided to put current thinking into perspective. The review of brand loyalty literature is restricted to the level of finding an appropriate operationalisation for this research. The review of attitude modelling is restricted mainly to the development of Reasoned Action Theory with brief consideration given to it's limitations and the alternatives.

2.2 Involvement

2.2.1 Introduction

The review of the involvement literature begins by tracing the origins of the definitions in social psychology. The introduction of the concept into the consumer behaviour literature (by Krugman 1965) is then documented. This is then followed by a review of the multiple definitions and measurement instruments that have been proposed for consumer behaviour. The viewpoint that a single definition of involvement is inappropriate is developed and subsequently, a classification of involvement definitions is provided. More recent developments, specifically relating to developments in empirical models of involvement, are reviewed in detail. Finally, several preliminary studies, attempting to link the construct of involvement to consumer behaviours are reviewed.

2.2.2 Involvement: It's Origins, Development and Definition

The concept of involvement was first discussed in social psychology by Sherif and Cantril (1947). In this seminal work, the authors define involvement as "the relationship between an individuals values and an issue or an object". In this and subsequent work, involvement is said to exist when any social object is related to the domain of the ego; this incarnation of involvement emerges as the concept of "Ego-Involvement". Here the ego is seen as the attitude bundle that determines the more or less enduring character of one's identity with one's incorporated values. Although between authors there are differences in nuances, this concept of involvement remained the basis for investigation within the social psychology field. The key to measuring the construct centres around the connection the individual can make between the issue and terminal values[1]. Ostrom and Brock (1968) emphasise three components to be measured:

1) Strength of relationship with terminal value
2) Rank of the terminal value to individual
3) The number of terminal values involved

Despite the existence of these theoretical measurement parameters, there are few instances in the early social psychology involvement research where involvement has been extensively empirically researched. Most early works use the simpler, though related, definition of involvement of "importance" or "salience" of the issue / object (Sherif and Sherif (1967)) as the basis for their operational definitions.

A second important definition of involvement to appear in the social psychology arena is that of "Response involvement". This term was originally used to refer to the inflexibility of an attitude with respect to an issue or object (Sherif and Hovland (1961)). The real distinction between this and ego-involvement lies in the situational context of the definition. Whilst ego involvement implies an intrinsic interest (centrality) of the object or issue, response involvement refers to the desire of the individual to take up a position on the issue. This is driven by the need to optimise some benefit arising from the issue. These ideas are developed by Freedman (1964) and later by Houston and Rothschild (1977).

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[1] Examples of terminal values are "love" "peace" "excitement" "freedom" etc.

A third and final important definition arising out of social psychology is the concept of commitment first introduced by Freedman (1964). Here the individual becomes attached to a specific position on an issue (ie. becomes committed). Commitment is distinct from involvement in as much as it has a behavioural context. An example of this would be commitment to a political party which (given the opportunity) implies an intention to vote.

2.2.3 Involvement in Consumer Behaviour - Early Definitions

The concept of involvement was introduced into the consumer behaviour field by Krugman in his seminal work in 1965. However, this incarnation of involvement is almost entirely distinct from the social psychology definitions presented above. What Krugman described was **communication involvement** ie. involvement with a marketing stimulus or advertisement. Krugman defines this form of involvement as:

> "..the number of conscious "bridging experiences" connections or personal references per minute that the viewer makes between his own life and the stimulus. This may vary from none to many."
>
> Krugman (1965)

In contrast to ego involvement, these connections do not have to be with terminal values, but with any relevant life experiences of the individual. However, Krugman points out that this is not the same as merely attention, interest or excitement about the communication. A further distinction between communication involvement and ego involvement is that the former is entirely transitory; lasting only as long as the stimulus itself.

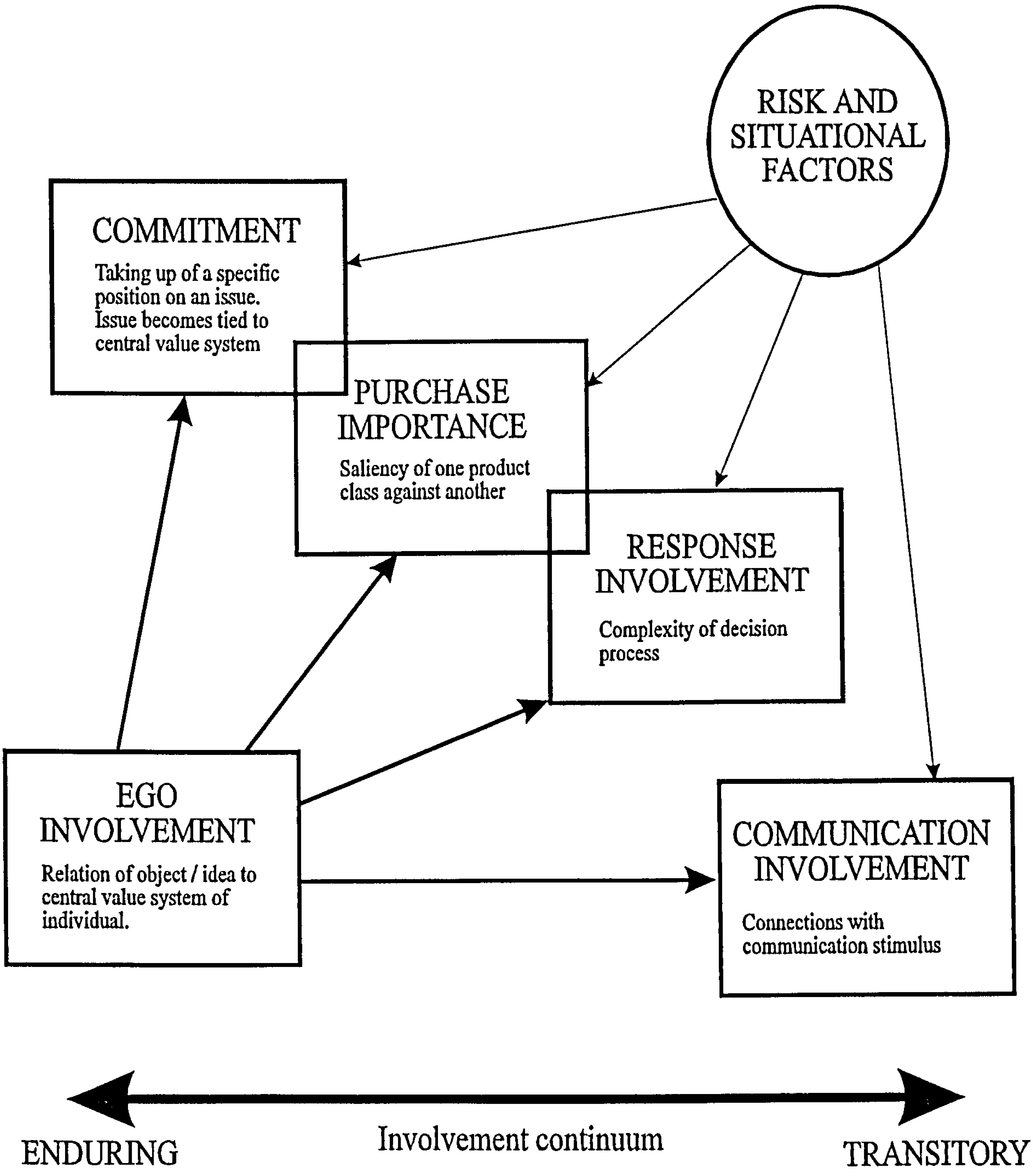
Krugman's work is widely recognised as instrumental in introducing the concept of involvement into the consumer behaviour field:

> "..the simple concept of involvement, off-handedly introduced by Krugman some years ago, may well qualify as one of the most important scientific ideas to emerge in consumer behaviour research in recent years"
>
> H. Kassarjian, 1980

Despite the fact that communication involvement has limited application, the introduction of the construct to the consumer behaviour field motivated much theorising and a number of other involvement studies (eg. Howard and Sheth (1969), Hupfer & Gardner (1971)).

Many of the early works developed the social psychology concept of involvement in relation to the consumer choice process. However, Muncy & Hunt (1984) identify one further definition, or form of involvement, which was developed specifically in relation to the consumer behaviour field: **Purchase Importance.** This incarnation of involvement can be defined as "the saliency of one product class against another" and is related to the extent to which the product class motivates or excites the individual. Purchase importance may be generated by ego involvement, but can also arise from risk. Muncy & Hunt (1984) note that the determinants of purchase importance were, at the time, only partly uncovered and raise the question "What other factors cause a purchase to be important?". Some answers to this question are developed further below in section 2.2.6 "More Recent Developments". Figure 2.1 shows a summary of the involvement definitions derived from the

Figure 2.1 Interaction of Involvement Definitions



Graphical Interpretation of Muncy and Hunt, 1984 social psychology and consumer behaviour literature and attempts to show the interrelationships between the various forms.

2.2.4 The Effects of Involvement - Historical Bases

In their classic work "The Theory of Buyer Behaviour" Howard and Sheth (1969) hypothesise that the level of involvement affects brand loyalty, information search and the size of the evoked set of brands. Ray (1973) introduced the idea that the level of involvement affects the entire nature of decision processing undertaken in product selection. Indeed, these ideas are widely developed in contemporary consumer behaviour textbooks (eg. Assael (1987), Engel et al (1986)). However, during the ten year period to 1980 very little empirical work was undertaken to validate any of these proposed linkages. In a review of the Involvement Literature, Rothschild (1984) notes that "most" of the papers on the subject were theoretical ones. In addition, he concludes that what early empirical work that has been done is largely inconclusive. For example, in a test of the Howard Sheth model, Farley et al (1974) showed positive results from only 24 of the 37 tests performed and the evidence is described by Engel et al (1978) as "highly fragmentary, based for the most part on bivariate relationships, even though for the most part the hypothesis called for multiple variables.".

There are two main reasons for the failure of the early empirical studies into the relationship between involvement and other consumer behaviour variables:

(1) there was general confusion arising out of the multiplicity of definitions outlined above

(2) the definitions were poorly operationalised which led to the problem of "circular misusage"[2] identified by Kapferer and Laurent (1986).

2.2.5 Involvement and Behaviour - Empirical Validation

The problems associated with definition and measurement outlined above have compromised the contribution of many of those early works whose purpose was validating any involvement-behaviour relationships. However, some limited progress was made and this section briefly documents some examples of these studies.

Involvement and Decision Making

1) Lastovicka & Gardner (1978). This piece of work examines cognitive structures amongst purchasers of compact cars; the consumer group being split according to their level of involvement with the product. The measure of involvement was based on the scaling procedure developed by Sherif et al (1967); (1965). The researchers were able to show a tentative correlation between the involvement index and the level of decision process complexity but were unable to demonstrate the validity of the cognitive structures proposed in the hypothesis.

2) Korgaonkar and Moschis (1982). This study is able to illustrate a relationship between involvement and post-purchase product evaluation. Using dissonance theory as a framework, the authors hypothesise that for high involvement products there is a positive relationship

[2] Kapferer and Laurent explain this phenomena as researchers measuring involvement by it's proposed consequences and give the example of Engel and Blackwell (1982) who suggest measuring consumer involvement by the time spent during product search, the energy spent, the number of brands examined and attention paid to advertising in the product category. Kapferer and Laurent raise the question "How can one test the consequences of a concept if the concept is measured by these consequences?"

between expectations and performance evaluations; conversely for low involvement products a negative relationship applies. Their work confirms that the level of involvement acts as a moderating variable.

3) Beatty and Kahle (1988). The authors report a study in which they test the relationship between brand commitment in the soft drinks market with the predictive ability of both the low involvement hierarchy model and the Extended Fishbein model. This study is instructive from a conceptual point of view in identifying a method of understanding whether the type of decision processing is moderated by commitment (ie. by the use of these two theoretical models). However, despite using a promising methodology[3], the research is compromised by a lack of behavioural data and some rather ambitious hypotheses. The authors are only able to conclude "that the findings appear to support the general thrust of the hypotheses" but that "clear differences between the two commitment groups were found".

Involvement and Brand Loyalty

1) Park, Assael and Chaiy (1987). The authors observe the desire by the involved consumer for firsthand experience of the brand because of the subjective validity which it imposed. In this work, they test whether product trial mediated in the relationship between a high level of consumer involvement and the behavioural characteristics of purchase. They were able to confirm that this was the case. In addition, they discovered that the number of favoured brands was highest when respondents were highly involved with products amenable to trial. This finding is at variance with the notion that high involvement is related to high unibrand loyalty.

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[3] Cross-Lagged Panel Correlation (CPLC), a quasi-experimental design, was used.

2) Traylor (1981). Traylor's work is able to shed some light on the involvement loyalty relationship through the surrogate of commitment. The results suggest no direct relationship between product involvement and commitment.

3) Kapferer and Laurent (1984). In an extensive study, Kapferer and Laurent illustrate association between their system of involvement profiles (see table 2.1 below for definitions) to purchasing characteristics. Using survey data gathered from 800 respondents across 20 product fields, they found a positive relationship between interest in a product and repeat purchase. However, a negative relationship was found to exist between the pleasure-value facet and repeat purchase. Other facets of their involvement profile, such as sign, did not consistently affect repeat purchase behaviour. This work gives considerable credence to the belief that there is a relationship between involvement and brand loyalty. However, it should be noted that a self-report approach was adopted to assess the extent of repeat purchasing. The authors acknowledge that survey data of this kind is not the most reliable method of repeat purchase data collection. Panel data would provide a more accurate measure since it facilitates a sequential recording of the actual purchases made.

4) Mittal & Lee (1989). The authors present further evidence on the involvement-loyalty relationship. It should be noted that the research design used suffers the same problems described earlier for Kapferer and Laurent's work and, additionally, is based on a small convenience sample. Interestingly, the authors are unable to show significant correlations between source-constructs (antecedents in Kapferer and Laurent's terminology) and the behavioural characteristic of brand commitment. However,

they do report a significant correlation between product involvement and brand commitment.

2.2.6 Recent Developments in Involvement Theory

Despite the chequered history of involvement theory, there are some common threads emerging from the multifarious definitions of involvement. Major contributions to the field can be traced to a handful of authors: Bloch and Richins (1983), Vaughn (1980), Zaichkowsky (1985), Kapferer and Laurent (1984), (1985), Mittal and Lee (1989). These authors have been instrumental in helping to clarify definitions of involvement and providing appropriate measurement devices and theoretical frameworks from which empirical investigation can be undertaken. Their key contributions are contained in the development of measurement scales which used the bases (antecedents) of involvement rather than the proposed consequences as their object (see also section 2.2.4).

Kapferer and Laurent (1984) identify five antecedent facets of involvement (shown in table 2.1), derived from both the work of Rothschild (1984) and from interviews with marketing practitioners and consumers.

Table 2.1. Kapferer Laurent's Antecedent Facets of Involvement

1. **Interest**
   Centrality, ego-importance of the product class
2. **Pleasure**
   Hedonic or rewarding value of the product class
3. **Sign**
   Perceived sign value of the product class
4. **Risk importance**
   Perceived importance of the negative consequences of a mispurchase
5. **Risk probability**
   Subjective probability of making a mispurchase

(After Kapferer & Laurent (1985))

In most of their experimental work, Kapferer and Laurent are able to show discriminant and trait validity for at least four antecedent facets and, in this way, are able to show support for the proposed dimensionality of the construct.

Kapferer and Laurent's' work represents a significant step forward in understanding the concept. They provide, for the first time, a sound method of measuring the involvement construct by using antecedent facets as the basis for definition. Prior to this work, involvement was commonly defined and measured by its proposed effects (the "Circular Misusage" problem). Kapferer and Laurent (1985) also provide significant empirical work to back up their theory, which has been discussed previously in section 2.2.5.

Building on the important contribution that Kapferer and Laurent make, Mittal and Lee (1989) propose three refinements to their model. Firstly, they suggest that the facet of perceived product importance actually measures product involvement. They argue "An object (eg. refrigerator) can be perceived important but may not evoke much interest ie. be involving". Secondly, they argue that the involvement construct is only complete when measured at the brand decision level and the product group level simultaneously; Kapferer and Laurent's work does not explicitly to do this. Finally they point out that it is artificial not to distinguish between the antecedents of the concept and the concept itself. They propose that the state of involvement itself should be measured in addition to the antecedents.

In their 1989 paper, Mittal and Lee present a causal model of involvement derived from the works of Kapferer and Laurent (1985) Bloch and Richins (1983) and Rothschild (1984). The model proposes an involvement dichotomy: product involvement and brand decision involvement, each of which are considered to be caused by three facets of involvement. The authors use the following two definitions to distinguish involvement forms:

Product involvement: is the interest a consumer finds in a product class.

Brand decision involvement: is the interest taken in making the brand selection.

Both of these forms of involvement have three antecedents in their framework. Product involvement is generated by sign value, hedonic value and utility of the product class.

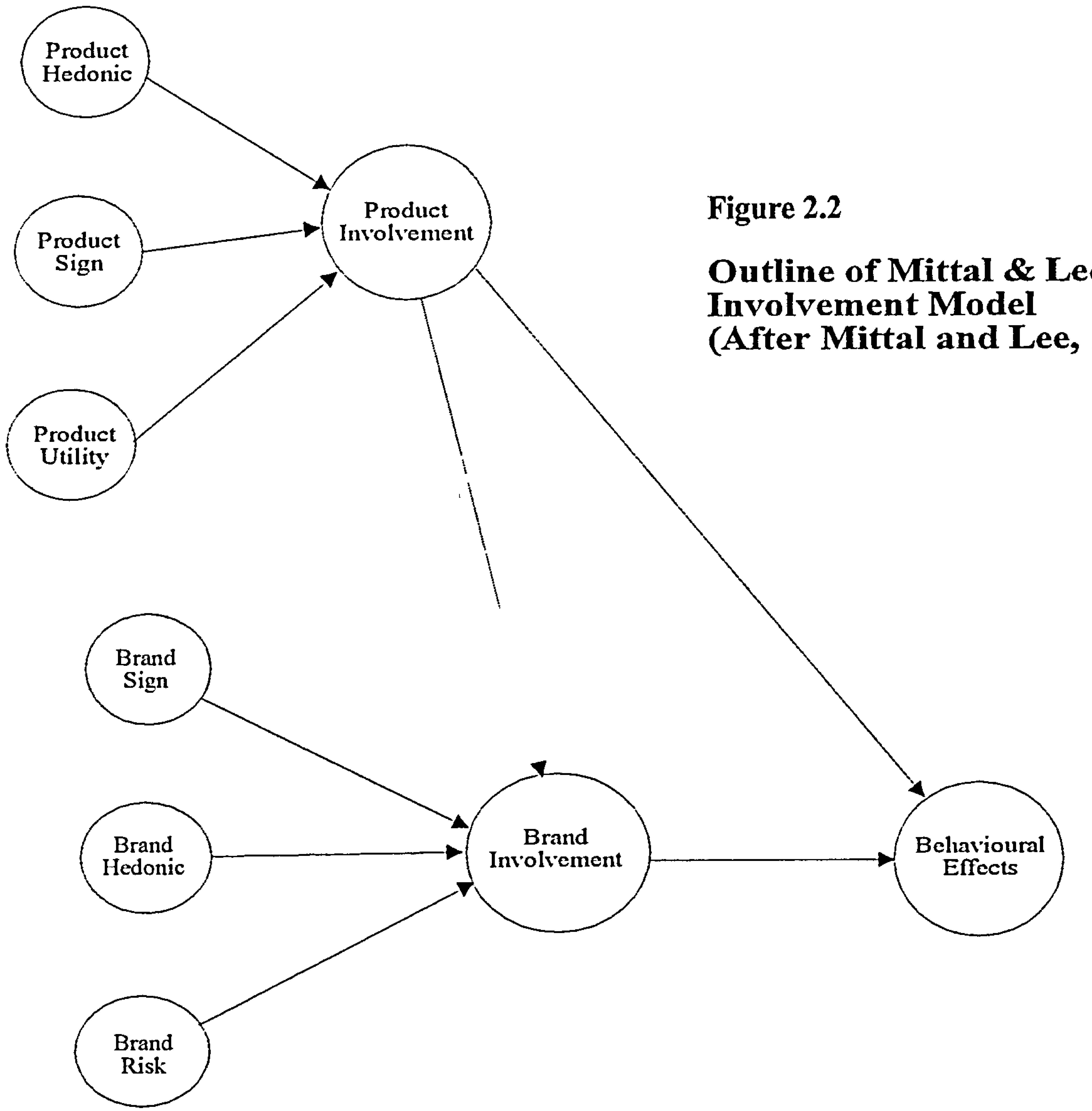
Brand decision involvement is generated by product involvement, sign value, hedonic value and "utility-economic" risk. The individual antecedents of each of the forms of involvement **may** be a **sufficient condition** for involvement to exist, but they are **not necessary conditions.** The use of two forms of involvement provides a method for articulating the situational / enduring involvement continuum. That is, the use of two definitions means that the more enduring facets of involvement (relationship of product to the ego) and the more transitory forms (related to the brand purchase decision and moderated by environmental factors) can be dealt with separately. Each of the constructs (two forms and six sources of involvement) is measured by 3 items (the full test instrument is reproduced in Appendix 1). An outline of Mittal and Lee's framework of involvement is shown in Figure 2.2.

The authors present an exploratory empirical test of their theory among durable goods using LISREL VI for analysis. The empirical analysis establishes the measurement principles of the framework with data from two product fields. Some attempt is also made to estimate the behavioural effects of involvement within these two product classes using the proposed model. However, it should be noted that the latter is compromised to some extent by the fact that the same sample was used to establish the measurement principles, the involvement framework itself and the proposed consequences.

Building, as it does on the work of Rothschild (1984), Kapferer and Laurent (1985) and Bloch & Richins (1983), Mittal and Lee provide the basis for a unifying theoretical framework on involvement. There is also good evidence to suggest that it provides a solid foundation for empirical

Figure 2.2

Outline of Mittal & Lee's Involvement Model (After Mittal and Lee, 1989)



study. Firstly, the model is consistent with the early social psychology definitions outlined above in section 2.2. Secondly, the discipline required to estimate the model with LISREL has led to it being readily testable empirically. Thirdly, the model shows good logical progression which is consistent with contemporary theorising about the involvement construct. Indeed, the model holds up well against the criteria suggested by Zaltman et al (1973) for consumer theory evaluation. This, evidence coupled with the fact that the test instrument itself has been published, is justification for using the framework in this study. The instruments used in earlier works by Kapferer and Laurent remain unpublished.

2.2.7 Critique of the Involvement Literature

The review presented above reveals three main phases in the development of involvement research:

1) Early definitions and measurement. A great deal of confusion existed as to the exact nature of the construct being measured. This is a feature of both the social psychology and consumer behaviour literature.

2) Theoretical and limited empirical attempts at establishing the consequences of involvement. Supposed consequences of involvement were determined from conceptual theorising and implied from early social psychology research. Limited empirical investigation was undertaken using operationalisations that were often inadequate.

3) More robust measurement principles and theoretical frameworks have been developed. Recently, research

effort has been focused on using more robust methods of measuring the involvement construct. This work is drawn together in Mittal and Lee's "unifying framework".

The next phase is, logically, to re-examine the consequences of involvement using these new measurement principles. To be Consistent with the literature, two principal involvement dependent behaviours have been selected as the focus of this research effort: brand loyalty and the type of decision processing. However, Wind and Lerner (1979) have shown that behavioural consequences must also be measured adequately for the research effort to be fruitful. The measurement of these two specific consumer behaviours follows in the next sections of this literature review.

One further point to note from the literature is that the majority of involvement research has been focused on consumer durables: there is a paucity of empirical studies of involvement and behavioural consequences in grocery product markets. In principle, it appears from the literature that consumers could exhibit differing levels of involvement with grocery products and have distinguishable purchasing behaviours (see Kapferer and Laurent (1985), Mittal (1989)). Since consumer behaviour in grocery product markets is of significant commercial interest (see section 1), it is a logical and appropriate step for this study to explore the domain of frequently purchased grocery products.

2.3 Repeat Purchase and Brand Loyalty

2.3.1 The Significance of Repeat Purchase in Perspective

With the exception of a very few product categories, the phenomena of consumers re-purchasing a brand through satisfaction is a major objective of marketing strategy. The reason why repeat purchase is important is simple: retaining customers requires less marketing effort than recruiting new ones (see for example Wills et al (1984)) and is economically desirable. Not surprisingly, the vagaries of repeat purchase behaviour has been the subject of extensive research effort throughout the history of consumer behaviour (Jacoby and Chestnut (1978)). However, much of the work suffers from similar problems to the early involvement work - definitional inconsistencies and inadequate operationalisation (Muncy and Hunt, 1984). There are three main factors which can be isolated which contribute to these difficulties. Firstly, in order to understand repeat purchase behaviour requires **behavioural** data. Collecting such data is costly, since it generally requires a panel, and the substitute of self report survey data is often unreliable (see Wind and Lerner (1979)). Secondly, often as a consequence, the terms repeat purchase, brand commitment and brand loyalty have all been used interchangeably in the literature. Finally, there are at least two opposing schools of thought as to the nature of repeat purchase: stochastic and deterministic. These differing perspectives are addressed next in the following section.

2.3.2 Stochastic and Deterministic Perspectives of Repeat Purchase

The stochastic model of consumer purchasing derives the repeat purchase patterns of consumers from basic information about penetration and average purchase frequency. Consumers are considered to purchase brands in a random fashion which is predictable from known probability distributions. Thus, the levels of repeat purchase to be expected can be predicted from the basic variables. Models of this nature have been developed extensively by Ehrenberg (1988). The philosophical assumptions underlying these models are that the levels of repeat purchase are fixed for a given brand penetration and purchase frequency and are not easily altered by any easily identifiable causative variable. In defence of this seemingly unlikely scenario, Bass (1974) states "even if behaviour is caused but the bulk of the explanation lies in a multitude of variables which occur with unpredictable frequency, then, in practice, the process is stochastic.".

The application of this view of repeat purchase is clearly limited to modelling static market situations and does not provide any (indeed, may even deny the existence of) causative explanation. Both the theory underlying the models and their application is discussed extensively in Ehrenberg (1988) and more pragmatically by East (1990).

In contrast the deterministic view of repeat purchase behaviour is that a limited number of causes influence repeat purchase behaviour. That is, independent variables can be used to account for and even predict the level of repeat purchase for a given brand and set of consumers. However, research by the deterministic school has met with only measured success. Jacoby and Chestnut (1978) suggest that the reason for this is that repeat purchase behaviour is in fact multi-caused (pp. 4-5). However, these authors go on to note that determinism has a place in identifying useful models of behaviour within limited subsets of the domain of repeat purchasing, specifically in the area of "Brand Loyalty".

Building on the premise that even within the stochastic view causative variables are acknowledged (Bass (1974)), it is perfectly possible for both schools of thought to co-exist and provide mutually compatible models of behaviour. It also appears from this brief review that, in principle, the multi-faceted construct of involvement is an intervening variable[4] which has significant potential for explaining repeat purchase behaviour within the deterministic framework ie. because involvement is a psychological state, which itself is determined by multiple variables. However, for such a research effort to be useful, the exact nature of the behavioural construct must first be determined. The definition and measurement of brand loyalty is the subject of the next section.

2.3.3 Repeat Purchase and Brand Loyalty

Repeat purchase behaviour is an axiomatic term which simply refers to the extent to which consumers re-purchase the same brand after having experience of that brand. Since it is a purely behavioural construct, it is simply measured as the number of times a given brand is re-purchased by a consumer in any given period of time (see Ehrenberg (1988)). In contrast, the term brand loyalty is a complex construct that may contain psychological (commitment) elements **and** behavioural elements. The measurement and definition of this construct is discussed in detail below.

An extensive review of the brand loyalty literature is provided by Jacoby and Chestnut (1978). In this monograph,

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[4] An intervening variable is a term invented to account for internal and directly unobservable psychological processes that in turn account for behaviour (Zaltman et al (1973)).

the authors review over 300 brand loyalty studies in an attempt to determine the nature of the construct. The first point that they note is a general lack of conceptual definitions of the construct:

> "The concept of brand loyalty has been defined by most researchers empirically instead of theoretically, a few researchers have stated that the empirical definition *is* the theoretical definition"
>
> Woodside and Clokey (1975)
> in Jacoby & Chestnut (1978)

This phenomena leads to a great deal of difficulty in interpreting the many brand loyalty studies. Since there is no common theoretical definition, mutually exclusive research studies have been produced.

Jacoby and Chestnut go on to provide a classification of the various approaches to measuring brand loyalty. There are broadly three groups:

1. **Those that stress behaviour.** Examples are: **"Exclusive purchase"** - To be brand loyal the consumer must consistently purchase a single brand (Copeland, 1923; Churchill, 1942; Brown, 1952); **"Two thirds criterion"** - Out of a set of three brands offered four or more purchases of the same brand must occur in a six week period for brand loyalty to exist (Charlton and Ehrenberg, 1976); **"Three-in-a-row criterion"** - Brand loyal when three or more purchases in a row occur (Tucker, 1964; McConnell 1968)

2. **Those that stress psychological commitment.** Examples are: **"Brand Preference"** - A consumer is defined as loyal to the brand he names in response to the question: Which brand do you prefer?; **"Brand name loyalty"** - Loyalty is assessed on the basis of responses to the statement "I make my purchase selection according to my favourite brand name, regardless of price"

3. **Composite Indices.** Examples are: **"Brand insistence"** - Combines the behavioural index of exclusive purchase with an out-of-stock decision that another brand would only be purchased in the case of an emergency (Copeland, 1923); **"L_i"** - The ratio of the proportion of purchases devoted to brand *i* to the proportion of purchases devoted to brand *i* (Day, 1969).

The diversity and number of these approaches makes the task of identifying an appropriate measure a formidable one. Jacoby and Chestnut also provide a review of the comparative reliability, validity and sensitivity of the various measures. Unfortunately, this too proves inconclusive. However, in concluding their discussion on the theory and measurement of brand loyalty, Jacoby and Chestnut identify a conceptual definition (first proposed by Jacoby and Olson, 1970) for which they are able to cite extensive empirical substantiation. The conceptual definition (which will be adopted in this research) is expressed as a set of six necessary and collectively sufficient conditions. These are that brand loyalty is:

> (1) the biased (ie. non random), (2) behavioural response (ie. purchase), (3) expressed over time, (4) by some decision-making unit (5) with respect to one or more alternative brands out of a set of

such brands, and (6) is a function of psychological (decision making, evaluative) processes.

Jacoby and Olson, 1970

Operationalising this construct still provides enormous difficulties. However, this is the only fully identified conceptual definition available in the literature and even if not perfectly operationalised, at least provides a sound conceptual framework for researching the construct.

The specific measurement details to be used in this research study are discussed formally in section three below.

2.4 Consumer Decision Making

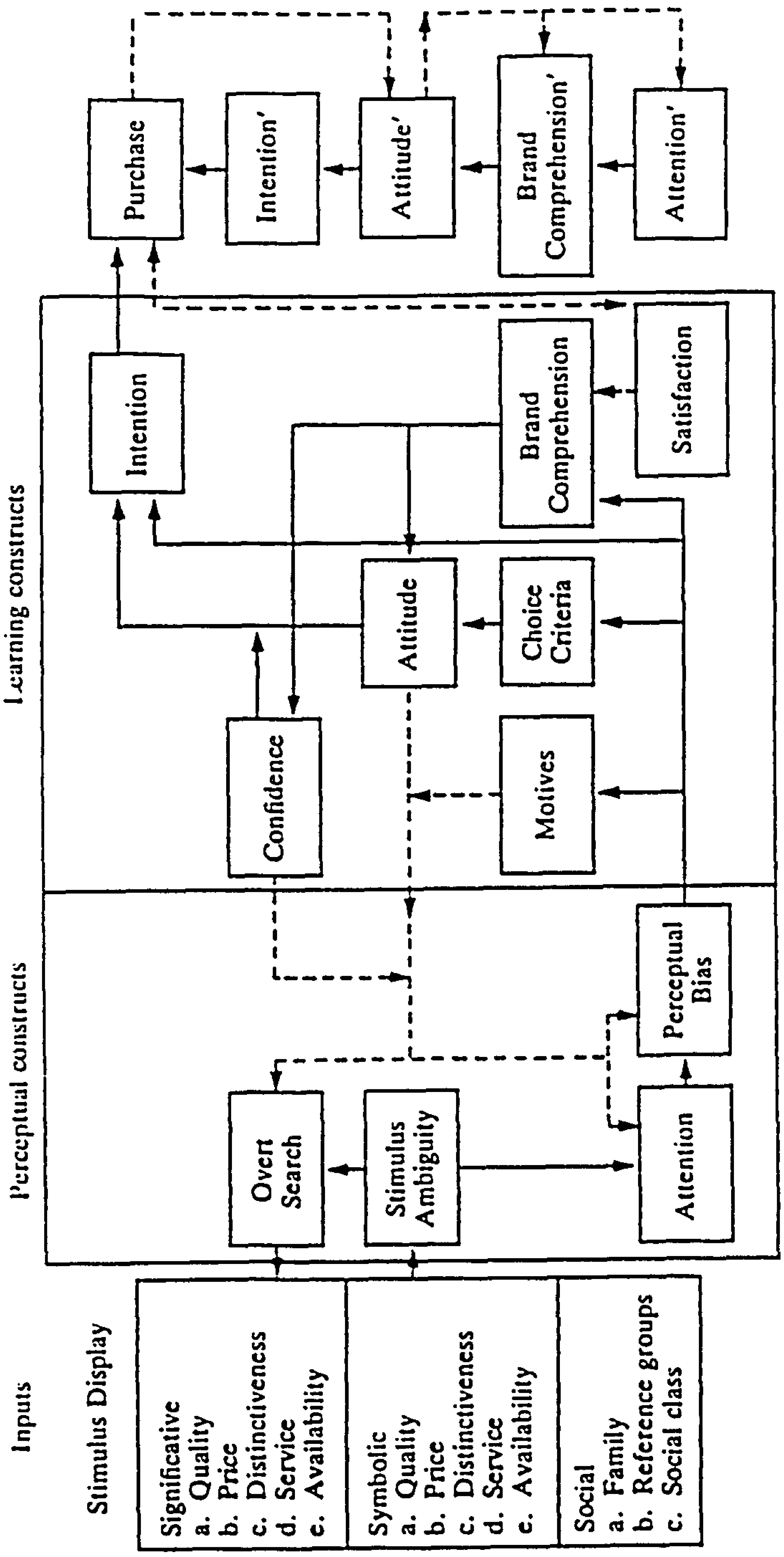
2.4.1 Involvement and Decision Making Styles in Perspective

The most widely accepted models of consumer behaviour are derived in the main from cognitive psychology, which has been the dominant paradigm for social psychology over the last three decades (Foxall 1990). The purpose of these models is to provide a conceptual and organised basis for explaining consumer behaviour. The two major comprehensive theories of buyer behaviour offered in the literature are those of Engel et al (1968) and Howard and Sheth (1969).

The common thread of cognitivist models was summarised by Howard (1983) as information-attitude-intention-purchase. The models categorise a causal sequence in which information is obtained, classified, and interpreted by the individual prospective buyer and, subsequently, via further mental processing, transformed into attitudinal and intention structures that determine such purchase outcomes as brand choice, store choice and loyalty. The Howard and Sheth model is shown in outline in figure 2.3. The model proposed by Engel et al suggests a similar structure to the Howard and Sheth model for High involvement decision making, and a separate structure for low involvement which suggests trial prior to attitude formation. Engel et al posit involvement as the pivotal concept that mediates between extended decision making for high involvement and limited problem solving for low involvement. These authors were thus instrumental in developing the notion that involvement affects the style of decision processing when consumers select brands.

However, whilst these models satisfy most of the criteria for evaluating scientific models suggested by Zaltman et al (1973) (eg. Well formedness, internal consistency etc.) they do not easily satisfy the criteria of empirical interpretability. This problem is noted by Ehrenberg (1988) and East (1990) who both point out the inherent difficulties in the verification of behaviour models because of the overlap in concepts and the paucity of agreed methods for measurement. This has presented difficulties to researchers, who, over the years have attempted to show empirically that involvement acts as a pivotal variable in determining decision making styles.

Figure 2.3 The Howard & Sheth Model of Buyer behaviour



Note: Solid lines indicate flow of information; dashed lines, feedback effects
Source: The Theory of Buyer Behavior by J. A. Howard and J. N. Sheth, p. 301.

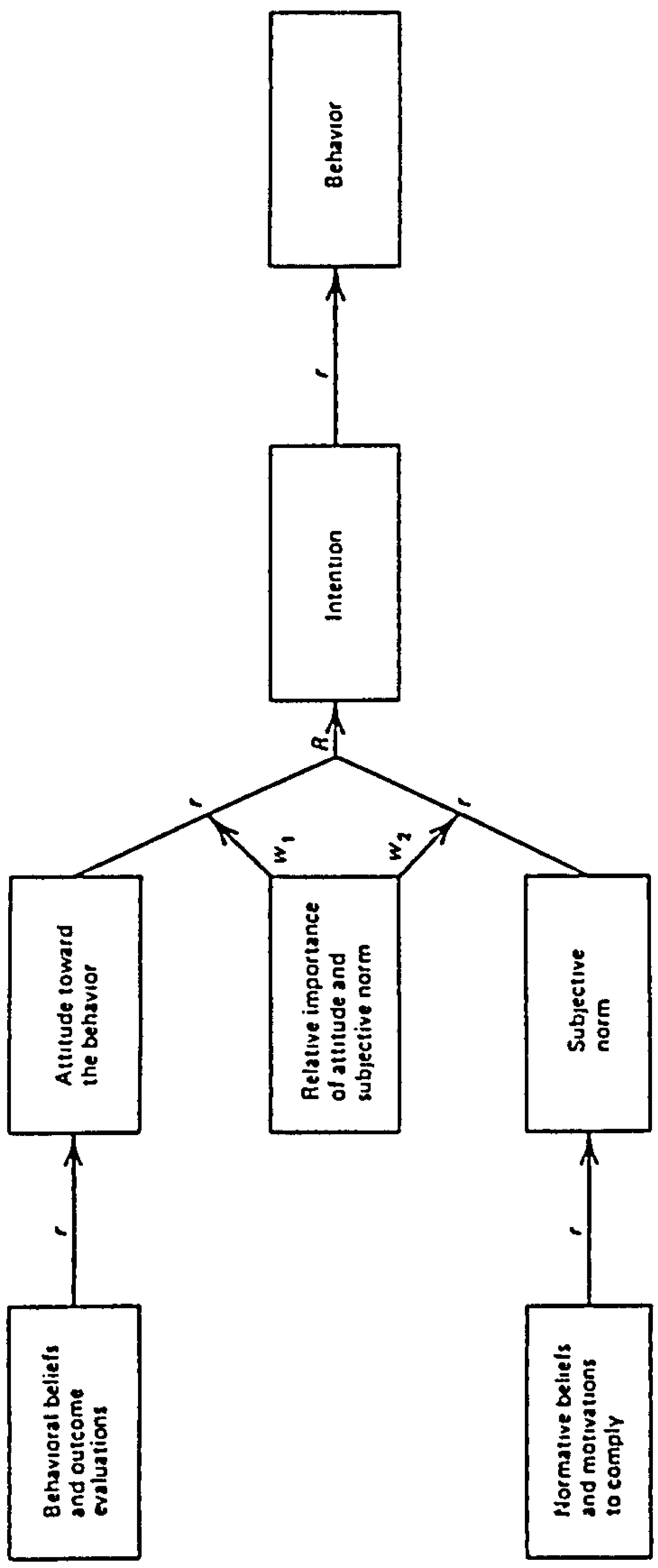
2.4.2 Indicators of Decision making Styles

The difficulties outlined above have led involvement researchers to use a variety of indicators of decision making style. Those most commonly used are the level of information search and attention to advertising (eg. Mittal and Lee, 1989). These are relatively easy to operationalise but clearly do not capture the whole nature of the decision making process. An alternative approach proposed by Beatty and Kahle, (1988), is to use one of the simple operational models of attitude and behaviour, such as the Extended Fishbein Model, to measure and understand the decision process.

2.4.3 The Theory of Reasoned Action

A greatly simplified view of buyer behaviour is offered in Reasoned Action Theory, operationalised in The Extended Fishbein Model (Ajzen & Fishbein 1980). This model still operates within the cognitivist paradigm but has been the subject of extensive empirical validation and has shown impressive heuristic utility in consumer behaviour research (see Sheppard et al, 1988). The basic theory is that a weighted combination of attitudes towards acts and subjective norms (attitudes imposed by referent groups) lead to intention which in turn precedes behaviour. The basic structure of the model is shown in figure 2.4. The extended Fishbein model describes decision making according to the tenets of high involvement theory. It attempts to operationalise a "reconstructed economic man" (Ajzen & Fishbein, 1980) who seeks to optimise the utility of a decision (which includes the risks associated with referent approval) by collecting and rationalising information prior to making a purchase decision. This is at odds with low involvement purchasing models which propose that trial precedes attitude formation (Ray, 1973; Engel et al, 1968;

Figure 2.4 The Extended Fishbein Model



Relations among beliefs, attitude, subjective norm, intention, and behavior.

After Ajzen & Fishbein (1980)

Howard and Sheth, 1969; Ehrenberg & Goodhart, 1989). Hence, the extended Fishbein model should perform better as involvement with the purchase increases. Indeed, Beatty and Kahle (1988) go some way towards illustrating that this is the case.

3. RESEARCH PROPOSAL

3.1 Introduction

Building on the literature review presented above and the general research questions stated in Section 1, this section identifies the specific objectives of this research. It begins by affirming the theoretical platform upon which the research will be built. The principal research hypotheses are then formally stated. Finally, a detailed consideration of methodological issues is provided.

3.2 Theoretical Underpinnings

3.2.1 Involvement Framework

The basic framework of involvement adopted in this research follows Mittal and Lee's 1989 model, the justification for using this model will be evident from the literature review presented above. The structure of the model is shown in section 2.2.6, figure 2.2. The structure of the part of the model dealing with sources and forms of involvement, their definitions and the measurement instrument are initially adopted in their original form. However, one minor modification is made to improve the specification of the model in relation to the causal paths leading to behavioural consequences and the model is extended to include the behavioural construct of brand support. These modifications are discussed in the next section.

3.2.2 Modifications to the Specification of the Involvement Model and Model Extensions.

Mittal and Lee (1989) test several hypotheses linking levels of involvement in the formal part of the model with a number of proposed dependent behaviours. One of these is the construct of brand commitment. In their work, they show a path between both forms of involvement and brand commitment. This is a little surprising since the development of the theoretical definitions would suggest a more logical structure would be: product involvement is an antecedent of brand decision involvement (as stated by Mittal and Lee) but, brand decision involvement is the sole antecedent of commitment. This is because the specificity of the definitions of the three constructs in relation to the object increases in the order: product involvement, brand decision involvement, brand commitment[1]. Thus, in this research the causal route between product involvement and brand commitment will be dropped because it violates the logical progression of the model and is a possible source of specification error.

It is clear from the review presented in section 2.3.3 that brand commitment does not fully capture the concept of brand loyalty. Building on the work of Jacoby and Olson, (1970), the construct of brand loyalty is considered to contain two distinct dimensions: the psychological (commitment) and the behavioural (manifest support for one's preferred brands through purchase). A major problem arises in providing an operational definition that satisfactorily captures these two dimensions within the confines of a linear model. One problem for instance, is that the conceptual definition does not specifically

[1] Mittal and Lee do not define, or formally state what they mean by brand commitment. However, the hierarchy suggested here is more consistent with the historical sources of the three definitions, ie. purchase importance (Howard & Sheth, 1969), response involvement (Sherif and Hoveland, 1961) and commitment (Freedman, 1964)

address the issue of what would constitute an individual who we could call "loyal". A second problem is that, in combining the two dimensions into a single index would lose a lot of the descriptive information about the combination of the two dimensions operating for any group of consumers. For example, for some products highly routinised behaviour may be important. Such behaviour would be characterised by low commitment but high support for the brands. In contrast, for other products highly committed behaviour may be apparent, but support for individual brands may be low because the consumer has a large portfolio. If one were to use a composite index of the two dimensions of brand loyalty, both these types of consumer would have a similar score but they are clearly performing different behaviours.

In order to address these two problems the following approach was adopted. Consistent with Traylor, (1981) commitment is viewed as an antecedent to brand loyalty and, thus, should explain a proportion of the variance in brand support (where brand support is the behavioural dimension of the loyalty definition at the conceptual level). Brand support can be simply operationalised as an index of the extent to which purchasing is devoted to a limited set of brands (details of how this was done can be found in section 6.5.3). Thus, this construct is specified as the ultimate dependent variable in the model, with commitment as it's sole antecedent. Whilst this leaves the model under-specified (clearly other variables will help determine the level of brand support), further descriptive analysis of the position of respondents along the two dimensions of brand loyalty can subsequently be undertaken without compromising the integrity of the conceptual definition.

3.2.3 Assessment of Decision Making Styles

The work of Beatty and Kahle, (1988) suggests that the style of decision making undertaken in product selection can be implied from the performance of decision making models in describing the data for a given group of consumers. That is, they suggest that the Extended Fishbein Model performs better for higher involvement decisions whilst the low involvement hierarchy model performs better for lower involvement purchasing. Building on this work the current research will adopt the stance that the Extended Fishbein model (Ajzen & Fishbein, 1980) can be used to these ends. This model is chosen because of it's operational simplicity and impressive performance in the analysis of social behaviour and involving product decisions (see Sheppard et al, 1988).

Alternative strategies for implying decision making styles used by researchers include the measurement of such variables as attention to advertising and levels of information search. Whilst the measurement of these variables is apparently simple, the potential number of control variables is large for the product fields to be considered here (for example, advertising levels vary widely between brands and product categories). In summary using the Fishbein model is clearly more complex but since it utilises salient attitudes of individuals at it's core it should provide a more robust framework for implying decision making styles.

3.3 Focus of Product Fields for the Research

It was noted above in section 2.2.7 that there is a lack of empirical studies concerning the measurement of involvement levels among consumers of frequently purchased grocery products. Whilst researchers do appear divided as to the absolute levels of consumer involvement to be found among such products[2] in principle it appears that varying levels of involvement will be found both within and between grocery product categories.

In an attempt to redress this omission from the literature this study will focus on UK product purchasing in the FMCG markets. Since the focus of this research is also the relationship between involvement and actual behaviour, the use of frequently purchased products has a second advantage. Behavioural data can be readily collected about the brands purchased over a reasonable time scale without the potential danger of poor recall of purchase decisions impacting on the reliability of the results.

3.4 Research Hypotheses

Measurement (Pilot Phase)

H1 Significant differences in the level of product class involvement can be detected between grocery product categories

H2 Significant differences in the level of brand decision involvement can be detected between grocery product categories

H3 Convergent and discriminant validity can be demonstrated for each of the constructs proposed in Mittal and Lee's model of involvement when it is applied to grocery products

[2] For instance, the Kassarjians have stated categorically that "consumers simply don't give a damn" about most grocery products (Kassarjian & Kassarjian 1979)

H4 The Number of salient attitudes about grocery products is higher for more involving grocery product categories

Main Research Questions

H5 Antecedent involvement sources are significant causes of the two forms of involvement **when the model is applied to grocery products** ie.:

H5(a) Product Hedonic is a significant cause of Product Class Involvement at the 95% level

H5(b) Product Sign is a significant cause of Product Class Involvement at the 95% level

H5(c) Product Utility is a significant cause of Product Class Involvement at the 95% level

H5(d) Product Class Involvement is a significant cause of Brand Decision Involvement at the 95% level

H5(e) Brand Hedonic is a significant cause of Brand Decision Involvement at the 95% level

H5(f) Brand Sign is a significant cause of Brand Decision Involvement at the 95% level

H5(g) Brand Risk is a significant cause of Brand Decision Involvement at the 95% level.

H6 Brand Decision Involvement is a significant cause of Brand Commitment at the 95% level when the model is applied to grocery products.

H7 Brand Commitment is a significant cause of Brand Support at the 95% level.

H8 The level of association between brand commitment and brand support is stronger for more involving grocery product fields.

H9 The Involvement - Support model provides a robust description overall of grocery product purchasing across product categories.

H10 The Extended Fishbein Model performs better (in terms of overall fit, as measured by the significance of the components, R square and Chi Square statistics) for more involving grocery product categories

3.5 Methodology

3.5.1 Introduction

Despite the fact that it has been proposed to validate and extend an already developed model of involvement, there are several alternative methodological approaches that are suitable to achieving this end. Although it was originally developed as a causal model, the generalised framework of the involvement model (Mittal and Lee, 1989) would also allow an experimental design or case studies to be used. In contrast to this the approach of using the Extended Fishbein model to imply decision making styles places considerable constraints upon the methodological approaches to data collection. This section briefly reviews the alternative methodological approaches that could be used to test the hypotheses outlined above. A description of the proposed methodology for the main part of the study is then provided. Finally, since this description is defined on the whole by the main study, the methodological approach to the pilot phase is also briefly discussed.

3.5.2 Alternative Methodological Approaches

3.5.2.1 Case Study Approach

Case studies, using detailed observation of a limited number of respondents are increasingly used in management research; this is particularly true where time and resources are severely limited. As a result of this, techniques for structured organisation and analysis of such data have thus become more popular (eg. Repretory Grid Technique, Kelly (1955)). However, the application of these techniques to consumer behaviour research has been more limited. In general, they are only suitable for the first stages of exploratory work because they provide a method for exploring the thinking of a single individual. In consumer behaviour it is often more relevant to understand the behaviour of groups of consumers (East, 1990).

However, in this instance case studies would provide the solution to a number of problems. For example, in contrast to the above, some quantitative techniques have been criticised for aggregating the data and ignoring the individual; these criticisms have been levelled at both work on decision making and repeat purchase (DeBruiker, 1979; East, 1990). Secondly, the measurement of behaviour by self-report within a postal survey framework is often inadequate; focusing research effort on a limited number of individuals and using extensive personal interviewing may help reduce this effect. Thirdly, attempting to use quantitative techniques can prove extremely frustrating because of the huge number of potential control variables which are difficult to take full account of. For example, in survey designs large samples would be required to adequately account for the varying levels of brand usage in the recent history of the individuals taking part in the study ie. because in this type of design it is assumed that if such differences affect the dependent variables that the distribution of the sample will cancel any effect out.

Despite the potential benefits of using a case study design the method is dismissed here because of the advanced nature of the theory on involvement. Since opinion has tended to converge in recent years towards a unifying framework for involvement and a tightly specified causal model of involvement has been identified, it is logical to undertake further quantitative testing (at least in grocery markets and with behavioural data) before the specification of the model is challenged with further qualitative work. Case studies may have a role to play in improving the specification of the involvement behaviour model when more extensive quantitative empirical work has been undertaken on validating the model.

3.5.2.2 Experimental and Quasi-Experimental Designs

Certain authors (notably Foxall, 1990) have argued that the use of anything other than an experimental design is inadequate in the study of consumer behaviour relationships. Foxall argues the case for study of consumer behaviour within the behaviourist paradigm and posits a framework called "Experimental Analysis of Behaviour". Such an approach denies the relevance of attitudes and, in their place, invokes the notion of the occurrence of reinforcement cues in the individuals experience history as the antecedents of behaviour. These cues are borne out of direct experience rather than rational mental processing. Indeed the paradigm suggested by Foxall has parallels with the radical behaviourism proposed by Skinner (1953). However, enthusiasm for establishing suitable research designs around this paradigm is scarce in the literature. There are broadly two reasons for this. Firstly, from a philosophical stand-point, cognitivism has proved more popular with researchers and indeed has been the prevailing paradigm in consumer behaviour since it's emergence from social psychology (East, 1990). Secondly, from a practical point of view, designing satisfactory experiments with people as subjects is extremely difficult and beyond most (non-proprietary) research budgets. Ehrenberg (1988) is one of the few authors who reports success using experiments with a mock supermarket in a van where a single variable, such as price, can be adjusted.

Whilst accepting cognitivism as a more natural paradigm for consumer behaviour research, it is still possible to formulate experimental designs around which to test hypotheses. However, the key construct in this research is involvement, and the nature of this construct makes it difficult to see how an experimental design could be used without affecting the level of involvement to an unacceptable degree. Although any measurement of the construct will inevitably lead to some modification of involvement levels among individuals, participation in an experiment may radically affect the type of decision making being undertaken.

One possible alternative would be a so called quasi-experimental design such as cross-lagged panel correlation. This technique was used in the involvement field by Beatty and Kahle (1988). The basic principle of the technique is to make repeated measures of the constructs under study, in this case attitude and behaviour, and using repeated measure correlation analysis and ANOVA, to imply the precedence of attitude or behaviour. However, in the current study, any initial "attitudinal states" are almost certain to be borne of experience to some extent (consumers will have purchased and used the products previously) and as such the design using a small sample would be flawed[3]. Indeed, Beatty and Kahle report only measured success with the technique.

3.5.2.3 Survey Design

Since the very earliest days of social psychology work, this technique has been used almost exclusively by researchers in the area of involvement and similarly in consumer behaviour as a whole. The principal advantage of the technique is that it is cost-effective to sample a relatively large number of consumers which allows the data collected to be subject to a wide variety of statistical analyses. In principle, the use of large samples means that extraneous variables tend to cancel one another out and, thus, associations between the variables of interest can be isolated. Recently, significant progress has been made in improving the statistical estimates of the relationships between variables for data collected though the survey methodology by the development of "causal modelling" (Bagozzi, 1980; Joreskorg and Sorbom, 1988). However, there are a number of drawbacks to the technique. Firstly, in the analysis of decision making, the technique has been criticised for using pooled information to imply the processing styles of individuals (de Bruiker, 1979). Secondly, the behaviourists would argue that the lack of control of the variables can easily lead to spurious

[3] Clearly there are ways around this problem. Groups of consumers could be controlled for their previous usage levels, or a large sample could be employed. However, the practical difficulties of achieving this rule it out.

results. Thirdly, the application of causal modelling analysis demands relatively large and costly sample sizes. Finally, the ability of the survey to satisfactorily capture behaviour has been questioned because of poor recall by the individual of the purchases made (Wind & Lerner, 1979).

3.5.3 The Proposed Research Methodology - A Preview.

In the literature review presented in section 2, three main issues were identified for measurement through the methodology chosen for this study. Firstly, involvement must be satisfactorily measured both at the source and form level. Secondly, a holistic approach is needed to facilitate the understanding of decision making styles. Thirdly, **actual consumer behaviour** needs to be measured effectively in order to have any chance of understanding the nature of it's relationship with attitude.

In order to be able to address these issues at the required depth the proposed methodology was to recruit a panel of consumers. Involvement and attitudinal data can then be collected by survey and actual consumer behaviour can be subsequently recorded over time using diary sheets. Involvement levels would be recorded using the Mittal and Lee test instrument amongst panellists at the beginning of the period. A second survey would be used to elicit the constructs required for the Extended Fishbein model. Data collected from the panel would then be used to form a brand support measure and score for each of the panel members. These scores could then be specified in a causal model as detailed in section 3.1.

There are three main criticisms that can be levelled at the preferred approach. Firstly, there is the possibility that participation in the panel may bias the results. However, Ehrenberg (1988) and Ehrenberg & Twyman (1966) have shown that panel participants do not significantly vary from non-participants and that long term panel membership does not significantly affect shopping behaviour. Secondly, the design does not fully provide for determining the precedence of attitude or behaviour. This is an important point because the hierarchy of mental processing and behavioural experience is hypothesised to be affected by the level of involvement (Engel et al., 1986). The use of the Extended Fishbein Model to articulate the mode of decision making goes only part way towards establishing the exact nature of the process. Finally, the design is susceptible to criticisms about the number of external variables that need to be controlled for (eg. level of advertising, brand usage, price etc.). However, it is proposed to use three product fields for the analysis and to use a score of brand support which is aggregate across all brands in each category. This approach, coupled with the use of a sample of around 200 should nullify the effect of extraneous variables on the research findings. Data on advertising recall, price and source of purchase will be collected in the panel data as a precautionary measure so that, if required, additional variables can be built into the involvement model.

Despite the limitations outlined above, the preferred methodology does provide for the systematic collection of reliable behavioural data. This presents significant new opportunities for furthering the understanding of the impact of involvement on selected the consumer behaviours (brand support and decision making style).

3.5.4 Pilot Phase Methodology - A Preview

Pilot fieldwork was required to address hypotheses 1 to 4. Firstly, a test of the involvement measurement instrument among grocery products was conducted. For this pre-test, a convenience sample survey design was used. This satisfies the criteria for speed and economy and allows the responses to be analysed for discriminant and trait validity, using analysis of the correlation matrix within a multi-trait multi-method[4] framework (Campbell and Fiske, 1959). Analysis of variance can then be used to determine whether significant differences in involvement levels can be detected between grocery product categories. In addition to the formal hypothesis testing, the results from this analysis also help determine the product fields to be included in the main fieldwork.

Consistent with established practice (see East, 1990) Fishbein constructs were elicited using a focus group and personal interviewing.

[4] Whether or not multiple items within a single test instrument qualify as maximally different methods is open to some debate, but the technique has been successfully used within this framework (see Carmines & Zeller (1979) see also Section 4.5.2)

4 PILOT PHASE

4.1 Introduction and Objectives

The purpose of this phase of the study is to address the formal hypotheses 1 to 4 relating to involvement, to elicit the salient constructs to be used in the Fishbein questionnaires and to determine the product fields for inclusion in the main fieldwork.

4.2 Selection of the Product Fields

In order to optimise the range of involvement levels captured in the main survey and minimise the number of product fields to be recorded, product fields with maximally-different mean involvement levels are desirable. Given the time and resource restraints of the research budget, two further criteria were applied to the selection of product fields:

1) they should be high penetration in order to optimise the speed of panel recruitment

2) they should have a short inter-purchase interval to minimise the length of panel recording necessary.

With these three criteria in mind, expert opinion was canvassed to select a range of grocery products that it was felt would return a range of involvement levels. Experts who were consulted consisted of marketing managers, lecturers and researchers working in the consumer behaviour field. In addition, two store checks were undertaken in supermarkets local to the area in which the panel would be set up. These checks were used to assess the shelf space devoted to the product lines suggested. This was used as an indicator of the penetration and volume of the products sold. A short list of seven grocery product categories was drawn up to represent the full range of involvement levels likely to be found among frequently purchased products. The following seven products were selected for inclusion in the first pilot survey:

1) Kitchen Towels
2) Tinned Tomatoes
3) Breakfast Cereals
4) Laundry Detergents
5) Toothpaste
6) National Newspapers
7) Cigarettes

4.3 Initial Pilot Questionnaire

For these seven product categories, a tailored questionnaire was constructed using the published Mittal and Lee involvement test instrument (three items for each involvement construct, twenty four items in total). Additional questions were added for frequency of use of the products and basic demographic information. The latter was used only on a subjective basis to ensure that a range of respondents were included in the sample. An open-ended question was included at the end of the questionnaire asking for comments on content and length. Further comments were canvassed from respondents when the questionnaire was collected.

4.4 Sample

The questionnaire on the seven product fields was left with a random convenience sample of 30 respondents and collected the following day. The objective was to obtain 25 cases for each of the seven product fields, providing a total of 175 cases for analysis. Ultimately, 168 cases were included in the analysis. The sample was made up of two thirds administrative staff / students at the Institute and one third housewives from the area targeted for the main survey. The objective of including at least part of the eventual target sample (ie. "real housewives") in the pilot sample was to ensure that the questions were understood by respondents from a broad range of backgrounds.

4.5 Response to the Initial Pilot Questionnaire

Feedback elicited from respondents through the open-ended question and face to face discussion revealed one major problem with the test instrument. This was, specifically, that respondents felt irritated at being asked, what they regarded as the same question three times for each antecedent involvement construct. The questionnaire length itself was not the problem, neither was the interpretation of the questions, it was simply that the multiple items associated with the antecedent constructs annoyed respondents. It was clear from this fact that some of the items would have to be removed in order for the proposed panel to be successful in retaining respondents.

Prior to criteria being developed for such an item reduction process, the data from this first questionnaire could be used to ascertain the legitimacy of the constructs contained in the model (ie. the multiple item responses were used to imply the convergent and discriminant validity of the eight involvement constructs). In addition to this, the reliability of the items for each construct could be calculated to provide guidance as to which of the items could be dropped whilst minimising the loss of reliability from the final test instrument.

4.6 Legitimacy of Involvement Constructs

4.6.1 Introduction

Mittal and Lee's model of involvement was developed and tested using durable product fields (jeans and VCRs). The focus of this research effort is frequently purchased grocery products. Thus, the question of whether the model can be applied to such product fields must arise. Whilst the limited sample resource of the pilot phase did not allow a legitimate test of the proposed causal structures underlying the model, it was possible to test whether the constructs themselves appeared to exist in their own right by estimating the convergent and discriminant validity from the correlation matrix. This goes some way towards validating the model. The question of discriminant validity is formally stated in hypothesis H3.

4.6.2 Multitrait-Multimethod Matrix Approach

The multitrait-multimethod approach (Campbell and Fiske, 1959) is a technique for implying the convergent and discriminant validity of constructs from the correlation matrix. The technique demands that each of the constructs under study be measured by several maximally different methods (for example, survey items, personal interview, differing test instruments). The technique can also be successfully used in instances where different items in the test instrument are assumed to be different methods of measurement. Using multiple items from a single test instrument leads to a theoretically weaker test of the constructs. However, it was thought to be sufficient here since the constructs in question were being tested only among new product fields rather than being developed directly from theory (ie. because the constructs had been extensively tested previously in Mittal and Lee (1989)).

The method relies on assessing the pattern of correlations between traits (constructs) and methods of measurement. The correlation matrix is tabulated with traits and methods along both axis and can be broken down into:

1. **Validity diagonals** - correlations between the different measurement methods for each construct

2. **Hetro-trait, Same-method triangles** - correlations between the traits (constructs) for each method

3. **Hetro-trait, Hetro-method triangles** - correlations between traits and methods.

There are then four criteria for implying the convergent and discriminant validity of the constructs:

1. Validity coefficients should be significant and "sufficiently large"

2. Validity coefficients should be greater than all hetro-trait, hetro method correlations in the same row and column.

3. Validity coefficients should be greater than hetro-trait, same method correlations.

4. Same pattern of correlations evidenced between all triangles.

The last criterion is less relevant if there is a causal structure underlying the different constructs. This should be obvious since the correlations between constructs which are causally related will, by their very nature, vary from those who are independent.

4.6.3 Results of the Convergent and Discriminant Validity Analysis

Data from the pilot questionnaires was coded free-format in the order of variable appearance in the questionnaire. The matrix of product moment (Pearson) correlations was estimated using DOS PRELIS V1.0 (Joreskog and Sorbom, 1988) and using the data across all product categories. The output from this analysis, which also contains descriptive information for the variables, is contained in appendix (II). The correlation matrix transformed into the format required for the MT-MM analysis is also shown in appendix (II).

Correlations between the three items for each of the constructs are all clearly significant at the 99.9% level which suggests that these correlations are "sufficiently large". The remainder of the criteria refer to mathematical differences and the extent to which they are satisfied is shown in table 4.1 below

Table 4.1

	Criteria for Correlations	Extent Criteria Satisfied (%)
1.	Validity Coefficients: Significant and Sufficiently Large	100
2.	Validity Coefficients: Greater than all hetro-trait, hetro method correlations in the same row and column.	100
3.	Validity coefficients: Greater than hetro-trait, same method correlations.	94
4.	Same pattern of correlations evidenced between all triangles.	75

Thus it seems that the constructs presented in Mittal and Lee's model are sufficiently distinct to consider them as separate constructs when the test is applied to these grocery products. The evidence presented in Mittal and Lee (1989), combined with the results from this analysis help to allay any concerns that correlations in the involvement model may have be due to shared content of the constructs rather than a true causal structure. **Hypothesis H3 is thus accepted.**

4.6.4 Item Reliability and Item Reduction Strategy

In order to develop the criteria for removing items from the test instrument the reliability of the measurement of each of the constructs was first tested. Subsequently, for constructs where the reliability was higher, items could be removed from the test instrument and where reliability was lower, items could be retained. In order to estimate the reliability of the measurement items for each construct, Cronbach's Coefficient alpha (α) (Cronbach, 1951) was calculated. The coefficient uses the variance of the test, the sum of the variance of the items and the number of items in the test to estimate a reliability coefficient. apha (α) is given by:-

$$alpha(\alpha) = \frac{n}{n-1}\left(1 - \frac{\sum Vi}{Vt}\right)$$

Where:

n= Number of items in test

Vi = Variance of test scores

Vt = Variance of item scores after weighting

The values of the coefficient alpha (α) for each of the constructs is shown below in Table 4.2.

Table 4.2 Reliability Measures

Measurement Item	Alpha (α) Value
1 Enduring Involvement	.94
2 Situational Involvement	.94
3 Product Utility	.89
4 Product Sign	.87
5 Brand Sign	.87
6 Product Hedonic	.84
7 Brand Hedonic	.72
Brand Risk	.72

Nunally (1967) suggests that for basic research, reliability coefficients of .7 to .8 are sufficient. Thus, the score for the items measuring the constructs are all extremely good. However, given that the reliability varies from construct to construct it seems logical to remove items from the constructs with the maximum initial reliability. In order to determine which of the items to remove, the correlation matrix was again inspected. Items with the highest correlation within constructs were removed first using the criterion of greater than .65 between items within constructs. This correlation is significant at the 99.999% level. The item removal criteria ensures that the minimum "content" is lost from the construct and that for a given reduction in items, that the eventual measurement reliabilities were as even as possible for each of the constructs. Using this criterion ten items were removed from the test instrument in total. The reduced form of the questionnaire is shown in appendix (II).

4.7 Involvement Scores and Selection of Products for Main Survey

One of the main objectives of conducting the pilot phase of the work was to determine whether significant differences in involvement scores could be detected between product categories. A second objective was to identify products with maximally different involvement scores for inclusion in the main survey. To these ends a one way analysis of variance for the six sources and two forms of involvement was conducted using the data from the initial pilot survey. However, given the proposed item reduction outlined above, only items that would be retained for the main survey were included in the analysis. The analysis was conducted using GENSTAT V5.1 and the output is contained in appendix (II).

Table 4.3 below shows a summary of the ANOVA undertaken for the product fields. Cigarettes are not included in the table for reasons which are discussed below.

Table 4.3 ANOVA Summary for Levels of Involvement

Involvement		Product Categories / Mean Scores [+]								
Form	Source	Kitchen Towels	Tinned Toms	Cereals	Detergent	T'Paste	N'Papers	Six category Mean	++ S.E.D.	+++ L.S.D.
Product Involvement		5.58	4.88	3.92	3.46	3.04	3.33	4.32	0.53	0.87
Brand Involvement		5.29	4.50	3.33	3.21	2.71	2.75	3.98	0.56	0.91
	Product Sign	5.83	6.00	5.10	4.83	4.42	3.27	4.92	0.48	0.78
	Product Hedonic	6.45	6.58	5.60	6.39	6.29	5.27	6.14	0.37	0.61
	Product Utility	2.88	3.54	3.38	2.00	1.79	2.63	3.22	0.44	0.71
	Brand Sign	5.25	5.67	4.54	4.38	4.71	2.46	4.49	0.52	0.84
	Brand Hedonic	5.15	4.97	3.69	4.15	3.78	2.90	4.11	0.44	0.71
	Brand Risk	5.36	4.97	4.82	4.17	4.01	4.15	4.58	0.46	0.74

Legend:
+ Low scores, more involving; high scores, less involving
++ S.E.D Standard error of difference
+++ L.S.D. Least significant difference (p=0.05)
* Significant differences

Broadly, three groups of products emerge from the table: Kitchen towels and tinned tomatoes at the lower end of the scale; Detergents, Newspapers and Toothpaste at the top end of the scale; and cereals in the middle. Whilst there are variations in the separations of the products on the individual constructs, there is an underlying consistency that outweighs any differences. Despite the small sample size, significant differences are always seen between the highest and lowest of the products for any construct, **thus Hypotheses 1 and 2 are accepted.**

Within the broad high-medium-and-low involvement classifications the similarity of product scores means that there is still some choice available in selecting products for inclusion in the survey. Ultimately Newspapers, cereals and kitchen towels were selected. In addition to showing high separation along the involvement scale, on balance these products also had the highest purchase frequency and penetration (based on the pilot survey results and the store checks reported above).

It was noted above that cigarettes were not included in the ANOVA analysis. This was because it was clear from the responses that health concerns about cigarettes had impacted on the results (because of dipolar responses to the risk elements). In any case, the product field may be one of the least suitable for the research because of the practical difficulties of recruiting smokers to the panel. In addition to this Ehrenberg, (1988) presents evidence to suggest that repeat purchasing (which will be a focus of the main survey) of cigarettes differs considerably from other product fields. In hindsight it is clear now that cigarettes were a rather poor choice to include in the survey design in the first place.

4.8 Further Estimates of Construct Reliability - A Test-Retest Analysis

4.8.1 Introduction and Justification for Undertaking the Test

The removal of items from the test instrument described in section 4.6.4 presents two problems. Firstly, further pre-testing was necessary to ensure that the reduced test instrument was acceptable to respondents and had removed the fatigue problem. Secondly, the lack of multiple items in some constructs means that the final construct reliabilities cannot be estimated and that constraints would have to be placed on any multiple item LISREL model in the final analysis. In order to address these issues a test-retest analysis was undertaken.

Test-retest analysis consists of subjecting respondents to the same questionnaire on two separate occasions. The results from the two tests can then be compared to determine whether consistent responses are given. Thus, an estimate of the stability of the test instrument can be made. It should be noted that the test does not address the question of content validity, convergent or discriminant validity but since the correlation of the rejected items with the retained items was so high, the former should be implied from the analysis and arguments presented in section 4.5. The period of time between tests is determined such that the constructs themselves should not have changed but equally, that respondents should not give the same answers from memory. Generally accepted practice for social psychology tests of this kind is to use a two week spacing (Nunally, 1967).

4.8.2 Fieldwork

The reduced-item involvement test instrument was constructed for the three product fields that had been selected for use in the main survey (Kitchen Towels, Breakfast Cereals and Newspapers).

A second random convenience sample of 30 respondents was struck. The sample consisted of housewives, students, and administrative staff of a local national charity. Questionnaires were left with respondents and collected the following day. Two weeks later, the same respondents were asked to complete a second version of the same questionnaire.

4.8.3 Analysis

Questionnaires were coded free-format using the same ordering as the questionnaire itself. In total 84 of the 90 cases (3 products x 30 respondents) were usable for both test occasions. Using data aggregate across the three product fields the correlation matrix for the items between the two tests was estimated using DOS PRELIS V1.0. The test re-test reliability coefficient, r_{kk}, (Nunally, 1967) was then calculated using the mean of the remaining items for each construct. These were all extremely high and are shown below in table 4.4.

Table 4.4 Test-Retest Reliability Coefficients

Construct	Reliability Coefficient r_{kk}
1. Enduring Involvement	.98
2. Situational involvement	.91
3. Product Utility	.97
4. Product Sign	.99
5. Brand Sign	.99
6. Product Hedonic	.99
7. Brand Hedonic	.99
8. Brand Risk	.97

In order to allay any criticisms about using data aggregate across the product fields an analysis of variance between products and tests was also undertaken. The analysis was carried out using GENSTAT V5.1. **The results of this analysis show no significant differences between test occasions, but confirm significant differences in the mean scores between product fields.** The output from the analysis is contained in appendix (II).

These two tests when combined provide strong evidence to conclude that the measurement device is indeed robust. In particular the incidence of consistent significant differences in mean product scores in the ANOVA suggests stability which goes beyond mere aggregate reliability.

4.9 Reasoned Action Theory: Preliminary Work

4.9.1 Introduction

In order to construct the questionnaires to produce a Fishbein model for each of the product categories, salient attitudes about the products and salient referents must first be determined. This section describes the process pertinent to the procedures and results from the elicitation stage.

4.9.2 Context of the Action Statement

The Extended Fishbein Model was used in the main fieldwork to assess the extent of reasoned decision making for brand choice within the product groups. The purpose was to test the hypothesis that extensive (reasoned) decision making is relevant where product involvement is high but that it is less significant in low involvement situations.

The object and context of the action statement is critical to the success of the Extended Fishbein Model; in particular, the action must be individual, voluntary and specified within a time frame (see East, 1990).

To some extent, the nature of the action statement under consideration here is constrained by the sample and methodology proposed for measuring the involvement and brand support facets of the main fieldwork. For instance, the action has to pertain to brand choice rather than product usage (since the sample will not include non-users). Secondly, it must allow for the selection of any brand from each product group since the sample will not have a quota for specific brands. Hence the Action statement selected for the research is:-

> "I intend to purchase my regular brand(s) of (product) during the next month"

This satisfies the research constraints outlined above and places the action within a time frame that can be verified by the panel recorded data.

One possible drawback of the statement is centred around the argument that the action is different for each respondent (if the definition of the action is taken to include the attributes of the respondent's regular brand). In practice it was found that the salient beliefs about the action tended to be consistent among users within the product category (see below) which implies that the reasons for undertaking the action were consistent, even if the ultimate choice was different.

4.9.3 Elicitation of Salient Beliefs

Consistent with standard practice (see East, 1990) a semi-structured focus group was used to elicit the salient beliefs about the respondents regular brands.

A focus group of five housewives was held locally during 1991. Ten minutes were allocated for each product field. Guided discussion was used, using the following format:-

- What brands do you use?
- Why do you buy these, what are the advantages / disadvantages?
- Who might influence your decision?

This was repeated for each of the product fields. Participants were then asked to complete summary sheets of their individual ideas. Two minutes was allowed for each product field. Participants were then asked to complete a short questionnaire, in order to record usage levels and reported brand support (examples of both are contained in appendix (II))

Salient beliefs and referents were recorded by an assistant as the discussion progressed. The session was also tape recorded.

In order to augment the results of the focus group four additional one to one interviews were conducted between 8th May 1991 and 16th May 1991. These were conducted on a similar line to the focus group but without requiring respondents to record a summary of their ideas.

A snowballing technique was used to gather the five participants for the focus group. One-to-one interview respondents were selected to augment the under-represented groups (ie. males and High/low socio-economic groups).

4.9.4 Salient Beliefs and Referents

Beliefs and attitudes that were recorded on a consistent basis from the lists generated by the focus group and the one-to-one interviews were retained for inclusion in the main questionnaire. The same process was applied to salient referents. Each of the influence sources within these constructs are listed below.

Breakfast Cereal:

Salient beliefs:

- Will taste good
- Value for money
- Will be a healthy breakfast food

Salient Referents:

- Children
- Spouse / partner

Kitchen Towel:

Salient Beliefs:

- Matches the Kitchen
- Will be in stock at the shop

Salient Referents:

- Conservation lobby

National newspapers:

Salient Beliefs:

- Enjoy reading it
- Keep up on news
- Have a good excuse to relax
- Keep up on sports results
- Have an unbiased view of the news

Salient Referents:

- Parents

- Spouse / partner

4.9.5 Involvement, Salient Beliefs and Referents

The results from the elicitation stage provides some support for the notion that the number of salient beliefs increases with increasing product involvement (Hypothesis H4). The first pilot survey was able to show that involvement was significantly higher for newspapers than for kitchen towels. The elicitation stage showed that the number of salient beliefs and salient referents is indeed also higher for the higher involvement newspaper category. By implication this suggests that decision making is more extensive for newspapers than for kitchen towels (since more attributes are salient). However, the evidence can only be considered as tentative since only three product categories were included. The differences may simply be attributed to the different product categories rather than the involvement levels ie. because in the categories the products themselves have a different number of attributes. Further insight will be possible after the main survey where the larger sample should isolate significant differences between all three product categories and the availability of the questionnaire data will allow comparison of the full model rather than solely the attributes.

5. MAIN FIELDWORK - PRACTICAL DETAILS

5.1 Introduction

In order to collect data on the critical link between attitudes, involvement states and actual behaviour, a consumer panel was recruited and operated for 16 weeks. Two surveys were administered at the beginning of the panel recording period. One of these probed involvement states and elicited demographic information whilst the other was for the Fishbein questionnaires. Subsequent to these, participants were asked to record their purchases across the product categories in diary sheets which were supplied every two weeks.

5.2 Target Consumers and Sample

5.2.1 General Considerations

In model building studies of this type, it is common practice for researchers to use convenience samples, based on the student population of the research institute. For example, Mittal and Lee's Involvement model was built using this type of data since it was collected from MBA students and their friends. This practice is open to question for the obvious reason that students fail to represent the wider population in many of their characteristics (eg. income levels, family circumstances, type of living accommodation, age). Perhaps the most significant difference is the fact that the educational status of students is radically different from the majority of the population. The use of housewives, rather than students in the pilot phase of this work has already highlighted one significant response difference to Mittal and Lee's work - non-students were less prepared to tolerate multiple-item scales. In addition, since it was necessary for the research to collect panel data over an extended period it was simply not practical to use students from the university campus.

In the ideal situation a sample of product users that was nationally representative on usage levels and major demographic variables would be recruited to the panel. Unfortunately, budget and time limitations ruled this out. As a compromise, a clustered, random-sampling technique was employed and the new town of Milton Keynes was targeted for recruitment. Milton Keynes is unusual in that each area and road contains housing of all types. The planner's objective was to achieve a stable mixture of social classes in all areas - data from the MKDC[1] shows that this was achieved to a large extent. In addition to the newly developed parts of Milton Keynes, the town also incorporates many of the original village communities that existed before development began such as Wolverton. Thus, using clustered random-sampling, it is relatively easy to achieve a sample that is representative, at least on social class and housing type. Milton Keynes had the added advantage of being close to the university campus.

Clearly such a sample would not be representative of the country as a whole, in particular shopping in Milton Keynes is more focused around supermarkets. However, the approach should yield results which are more realistic and more representative than a convenience sample of students.

5.2.2 Clustered Random Sampling

Clustered, random-sampling is a technique which allows the random selection of respondents whilst ensuring their close physical proximity. Thus, it is especially suitable for

[1] Milton Keynes Development Corporation

minimising the cost of panels where personal recruitment and interviewing is required (since interviewer travelling time is reduced). A description of the technique is given in Lehman (1989). In this research the method was operationalised by selecting random areas from Milton Keynes. Within each area individual streets were then randomly selected (in both cases the names were simply drawn out of a hat). An attempt was made to recruit all householders on each selected street for the panel. Out of the 113 Milton Keynes areas the following eight were selected for recruitment:-

Crownhill

Downs Barn

Great Holm

Downhead Park

Wolverton

Bradwell

Loughton

Shenley Church End

Three to four streets in each area were used.

5.2.3 Sample Size

In this instance, the sample size requirement was set principally by the requirements of the proposed analysis technique (LISREL) which demands greater samples than mere measures of association or even conventional regression. Sample requirement is determined by the level of precision with which the structural equation model can be estimated. This in turn is determined by the method of estimation to be used. LISREL VII offers numerous methods of estimating models, but the two most important are: Generally Weighted Least Squares (WLS) and Maximum Likelihood (ML).

The former, WLS, allows estimation of models without assumptions about the data being multivariate normal, but requires the estimation of the asymptotic covariance matrix which demands large samples. The sample size required to estimate this matrix with the required precision for any given model is given by:

$$1.5K(K + 1) \qquad \text{if } k > 11$$

Where K is the number of variables

If the number of variables is less than or equal to 12 the minimum sample is 200 (see Joreskog and Sorbom, 1988 Section 3, pp. 32). For the model proposed in this research with 17 variables, the minimum sample size required for WLS estimation would be 459.

Maximum likelihood estimation requires only the estimation of the covariance or correlation matrix and so sample requirements are less severe. Stennkamp and Trijp, 1991 suggest a sample size that "exceeds about 100" (p. 285) for Maximum Likelihood covariance structure estimations.

In practice, the results from the different methods of estimation rarely differ to such an extent that different conclusions would be drawn (see Joreskog and Sorbom, 1989). However, the ability to use the WLS for at least some of the analysis provides a means of validation for other estimation methods.

With these considerations in mind, the sample target was set at 200 for each product field. With this sample size the model could be estimated with data aggregate across all product fields using WLS and safely with ML for individual product fields. Additionally, some brand level analysis could be undertaken for the leading brands using ML if usage of a particular brand reached 50% of the sample.

5.3 Panel Recruitment

For each of the selected streets, a "warmer" letter and one page flyer giving details of the panel study was posted through the letterbox of every house, see Appendix (III). A personal visit was made the following day. If the householder was out, one re-visit was scheduled for a different time of day (a call record sheet was completed in order to keep track of house calls, Appendix (III)). All obliging householders who had used two or more of the product fields during the last month, were recruited onto the panel. Upon recruitment each member was given a starter pack consisting of the first questionnaire, first diary sheet and detailed instructions about being a panel member (see appendix (III)). At the recruitment visit details of how to complete the questionnaires and diary sheets were explained to the respondents. A total of 800 "warmer" letters were sent out and the households subsequently called on, 540 of these were contacted successfully and 298 agreed to participate in the study. Of these 222 actually returned their first questionnaire, 207 remained at the end of the recording period, of which 191 provided usable responses. Recruitment took place over the four weeks 24th June to 21st July 1991. Responses from the first two diary sheets were discarded (since the full panel had not been recruited).

5.4 First Questionnaire

The first questionnaire had three main roles:

1. To ensure that the respondents satisfied the quota requirement for panel membership (on product usage).

2. To collect basic socio-demographic information to ensure adequate record keeping for the panel and to allow the sample distributions to be checked.

3. To determine preferred brands and commitment to preferred brands.

4. To determine involvement levels.

The questionnaire is shown in full in appendix (III)

One item (Section A Q1) was included to test for quota, using six frequency categories.

One item (Section A Q2) was included for preferred brands. This used a free response format and allowed for three brands in each category.

Section A Q3 was an additional item included to account for the possibility that environmental issues would impact on involvement levels for kitchen towels.

Section A Q5 determines the broad categories of factors that might motivate a change of brand. It was included in order to help setting up the analysis of switching triggers recorded in the diary sheets.

Two items (Section A Q4 & Q7-Q9) were included for brand commitment. Q4 follows Traylor (1981) and is a simple 5 point commitment scale. Q7-Q9 is a modification of the scale used by Cunningham (1967) and is used because it expresses the psychological construct of commitment but sets it in a behavioural context.

Fourteen items for the six sources and two forms of involvement (Section B, Q1 to Q14)

Section C Q1-Q11, eleven items to record respondent information for panel tracking and basic demographic information. Q3 to Q7 collect the information required to code social grade according to the National Readership Survey system (see Monk, 1985).

Overall, this initial questionnaire was kept as simple and as short as possible to minimise alienation of respondents with the objective of retaining as many as possible over the four month panel recording period.

5.5 Diary Sheets

The number of brands available to consumers in each of the product categories was large (100+ for breakfast cereals). Hence, in order to keep the diary sheets as simple as possible, free response format was used. Each diary sheet covered two weeks.

Respondents were required to record the brand purchased, the date, the quantity, the price, the size and source of purchase for each purchase. Respondents were requested to record this information on the day of purchase.

At the end of the two week period they were asked whether they had changed brands during the period and if so to consider what they thought had motivated the change of brand. Respondents were also asked to recall and note any advertising they had seen for the product category over the period. Diary sheets were colour coded to make it simpler for respondents to identify which sheet to complete and which one to return. An example diary sheet is shown in appendix (III).

5.6 Second Questionnaire

The purpose of the second questionnaire was to collect the data required to estimate the Extended Fishbein Model for each of the product categories. The questionnaire was constructed with the help of the PREACT computer program (East, 1990) and used the salient beliefs elicited in the pilot phase. The questionnaire format is entirely standard and is shown in appendix (III). This second questionnaire was given to respondents two weeks after the start of the panel[2].

5.7 Panel Administration and Incentives

Upon recruitment, all panel members were recorded on a computer database. The database was used to track diary sheet and questionnaire return, record addresses, phone numbers etc.

In general, a new diary sheet was delivered and the old one collected on the first day of each new period. If respondents were in, a personal call was made to maximise contact and encourage continued participation. If respondents were out, a new sheet was posted and a freepost

[2] This was actually the beginning of period 4 since the panel started in earnest at period 3

envelope was provided for the return of the old sheet. Using information from the database, additional calls were made on respondents who did not return their sheets. Follow-up letters were posted with diary sheets to encourage return of the questionnaires where necessary. Two additional letters were posted during the recording period encouraging members to remain on the panel. Examples of call sheets and follow up letters are contained in appendix (III).

A telephone helpline number, with an answering machine service was provided for participants to register any questions about completing their diaries / questionnaires and to register holidays; calls were returned twice weekly.

Two types of incentives were offered; a free gift on completion of the first questionnaire, and an on-going free prize draw. The purpose of the free gift was to provide an "offer" to consumers at the personal recruitment visit. The free prize draws were designed to help retain members of the panel. The limited prize money fund was divided up into weekly, monthly and one final, end-of-panel prize draw. Bottles of Champagne and Marks & Spencer Gift Vouchers were used as the weekly prizes. A cash prize of £50 was offered monthly with a final prize of £300 at the end of the panel recording period. Prize draws were advertised on the front of each new diary sheet. The prize draw incentives were undoubtedly successful in helping to retain panel members, but the most powerful incentive for recruitment was the "student / altruism appeal".

The panel was operated for 16 weeks (not including the first two periods which were discarded) and recording was completed in November 1991.

All of the recruitment and panel administration was carried out by the author with the occasional help of one assistant.

6 ORGANISATION OF ANALYSIS, DATA HANDLING PROCEDURES & PRELIMINARY RESULTS

6.1 Organisation of Analysis

The purpose of this first analysis section is to provide a platform for the detailed analysis which follows. This section describes the data handling and cleaning procedures used and records the preliminary descriptive statistics from the main fieldwork.

The remaining detailed analysis is contained in the following two chapters and relates to the two research questions individually. Chapter 7 reports on the findings related to the first research question within the framework of the Involvement / repeat purchase model. The first part of the chapter addresses the formal hypotheses which were stated in chapter 3, section 3.4. This is followed by additional analyses that were undertaken to clarify the relationship between involvement, repeat purchase and brand loyalty. This additional work included cluster analysis, the mapping of respondents along brand loyalty dimensions and an examination of the motivations of brand switching. Chapter 8 deals with the second research question, the relationship between involvement and decision making, using the Extended Fishbein model. In each case, the justification for using the analysis technique is discussed prior to a consideration of the findings.

6.2 Data Handling Procedures

Data from the questionnaires was coded free-format, space-delimited ASCII under MS DOS. Panel data was initially coded into a data file for each period and the relevant information extracted from this database using purpose-written GWBASIC programs and SPSS data handling procedures.

The open response format of the diary sheets made coding of this data a formidable task (c. 250,000 individual pieces of code), but was necessary to ensure the design of the diary sheets was kept as simple as possible. The coding frames used are shown in appendix (IV).

All of the analysis was undertaken using IBM compatible personal computers. SPSS PC+ V4.0, SPSS for Windows V5.02, PRELIS V1.0 and LISREL V7.0 software were used for analysis.

6.3 The Sample

The objective of the sampling approach was to include a satisfactory spread of respondents along key socio-demographic variables (see section 5.2). The achieved sample by age and social class is shown in charts 6.1 and 6.2. These show that the achieved sample falls in line with the Milton Keynes population profile where, compared with the country as a whole, the younger age groups and middle social classes are over-represented (see MKDC data).

Figure 6.1 Milton Keynes Panel - Sample

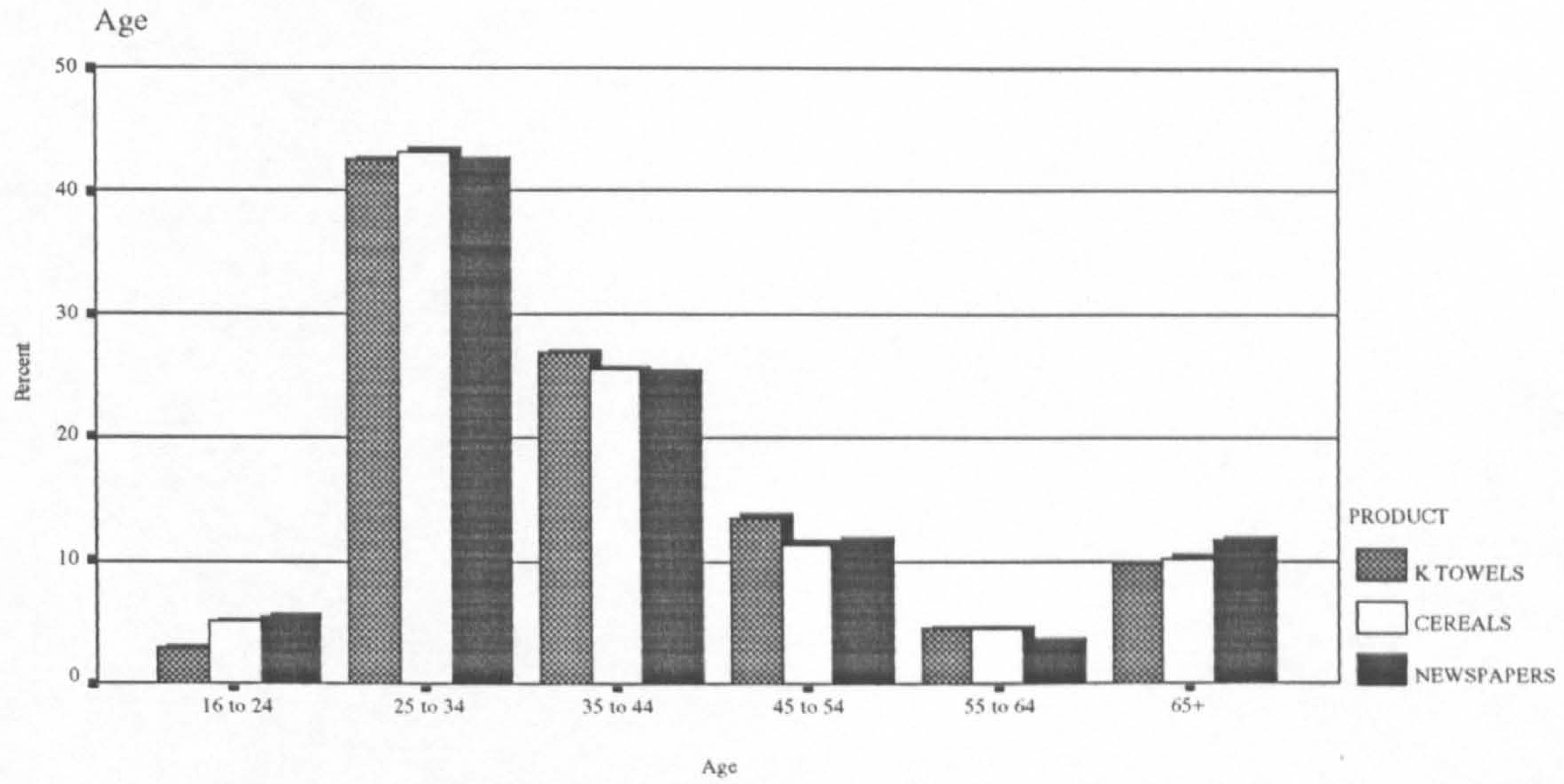
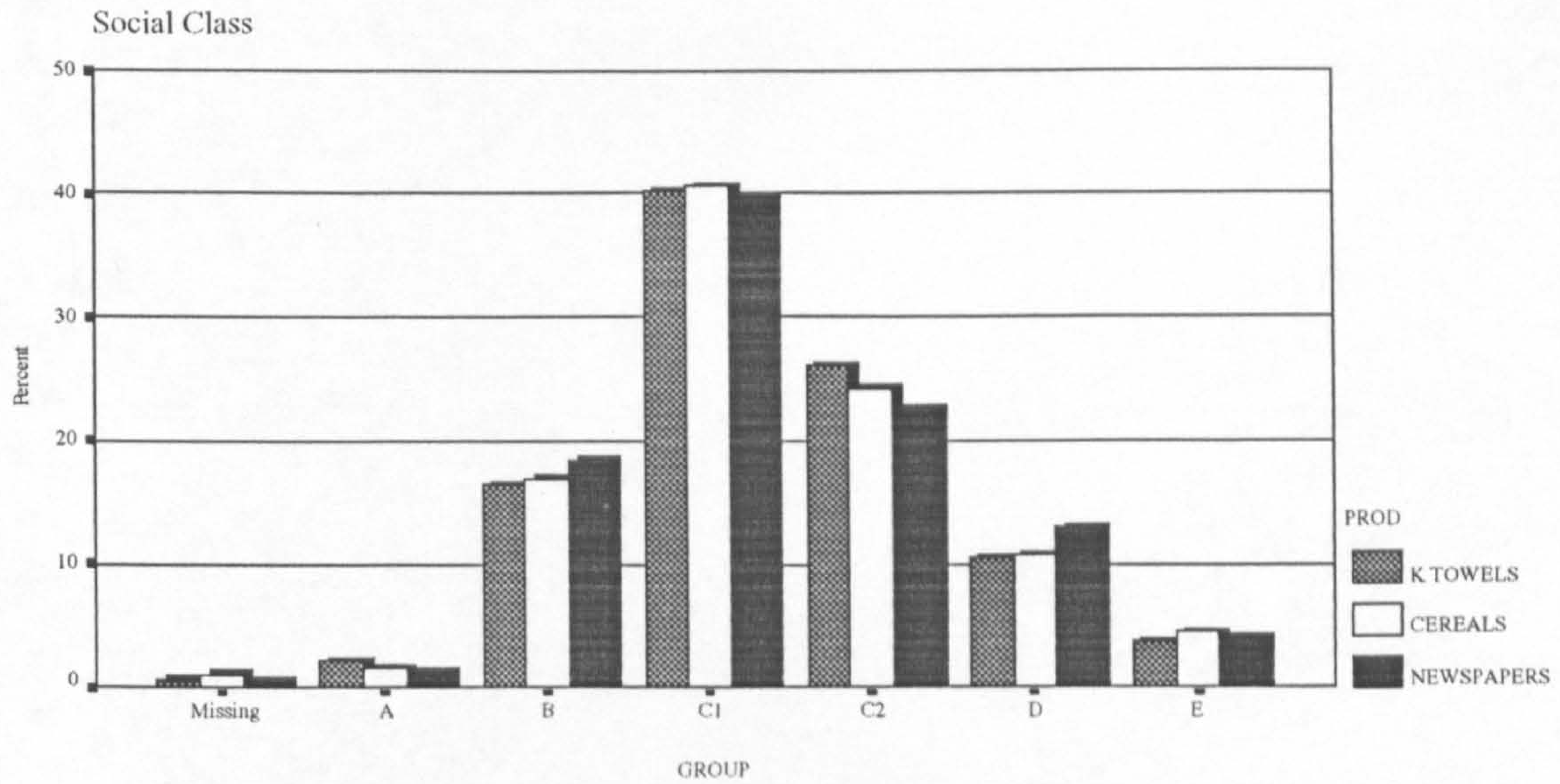


Figure 6.2 Milton Keynes Panel - Sample

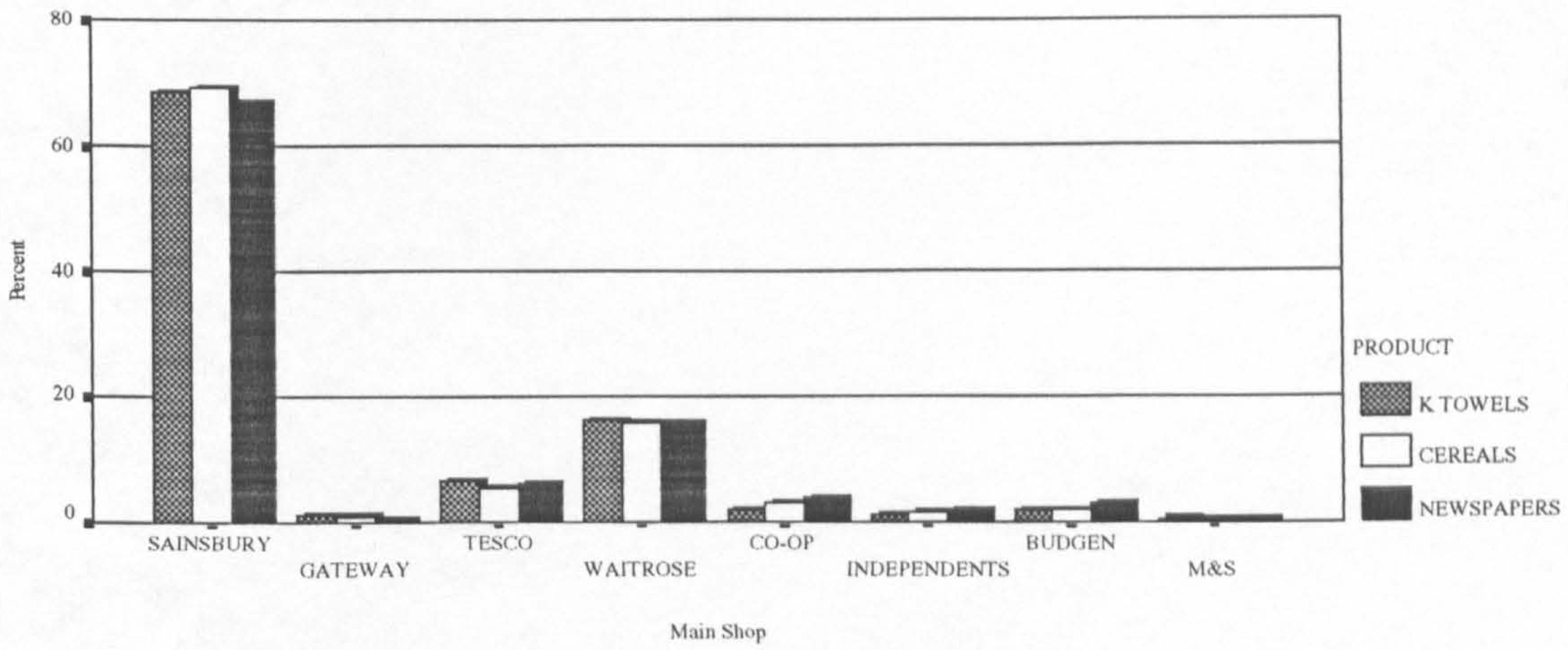


Although it was not a specific objective to achieve a representative sample these groupings closely match the expected Milton Keynes populations. Hence the basic sampling objective, to achieve a spread of consumers along basic socio-demographic variables, was completely satisfied.

It was noted in section 5.2.1 that the ability of the sample to represent the wider population in terms of the source of main grocery shopping was questionable. This is shown in chart 6.3 which reflects the self reported source of "main" shopping for the first questionnaire. The sample is heavily skewed towards purchasing from Sainsburys, which is the main centrally located supermarket in the Milton Keynes area. Although this clearly does not represent the wider population in terms of actual store used, Sainsburys is, in fact, the biggest source of "main shopping" in the UK (27% Source: TGI (1992)). In addition to this the majority of the remainder of "main shopping" is carried out in similar supermarkets (source: TGI (1992)). The specific brand used or the penetrations of brands are not required by this research, therefore the sample should be satisfactory even on this variable.

Figure 6.3 Milton Keynes Panel - Sample

Source of Main Shopping



Note: Question refered to store where main shopping conducted, and did not refer specifically to the product field.

Further frequency counts for the other principal socio-demographic variables are contained in appendix (IV)).

6.4 Forms and Sources of Involvement: Scores for the Product Categories

Consistent with the pilot research, the hierarchy of involvement levels shows newspapers to be the most involving, kitchen towels the least involving and cereals in between the two. Mean levels of involvement for both sources and forms is shown in table 6.1 below.

Table 6.1 Mean Levels of Involvement - Sources and Forms

	Product				
	K TOWELS		CEREALS		NEWSPAPERS
	Mean		Mean		Mean
Product Involvement	4.39	*	3.73	*	3.01
Brand Decision Involvement	4.02	*	2.63		2.43
Brand Hedonic	4.55	*	3.01		2.80
Brand Risk	4.85	*	3.75		3.55
Brand Sign	5.17		4.87	*	2.97
Product Hedonic	5.86	*	5.48	*	4.61
Product Sign	5.34		5.37	*	3.66
Product Utility	2.35	*	2.79	*	3.29

* Significant Difference at p=.05 (see appendix IV)

For ease of reference, these results are shown again as bar charts in figures 6.4 and 6.5. Note that in both the charts and the table a lower score reflects a higher level of involvement[1].

Interestingly the mean level of brand involvement is higher (ie. more involving) for each of the product fields than the level of product involvement.

[1] This is consistent with the original questionnaire coding of the scales. Although the coding scheme is counter logical (with hindsight!) the variables were not re-coded in order to minimise confusion.

Figure 6.4 Milton Keynes Panel

Mean Involvement Levels

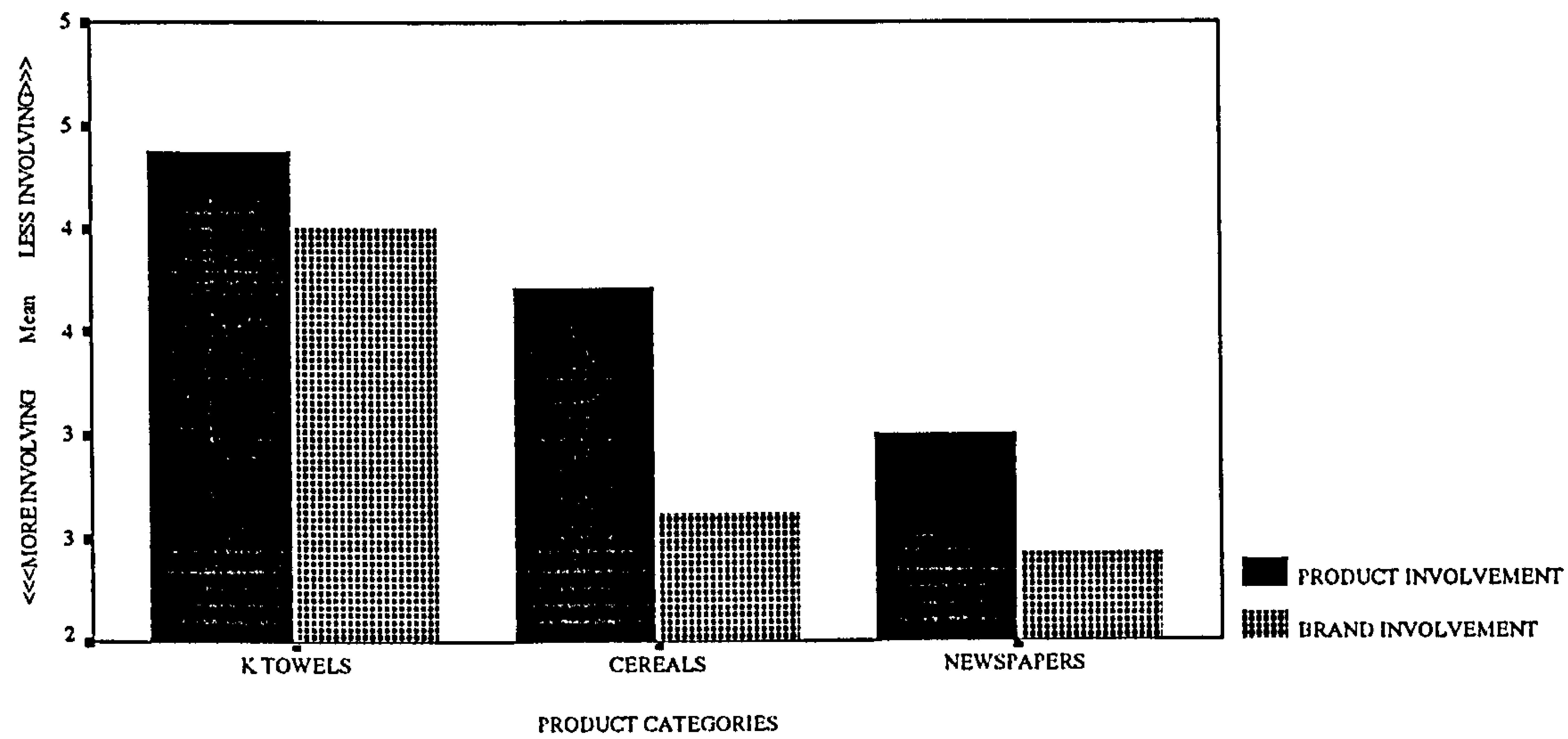
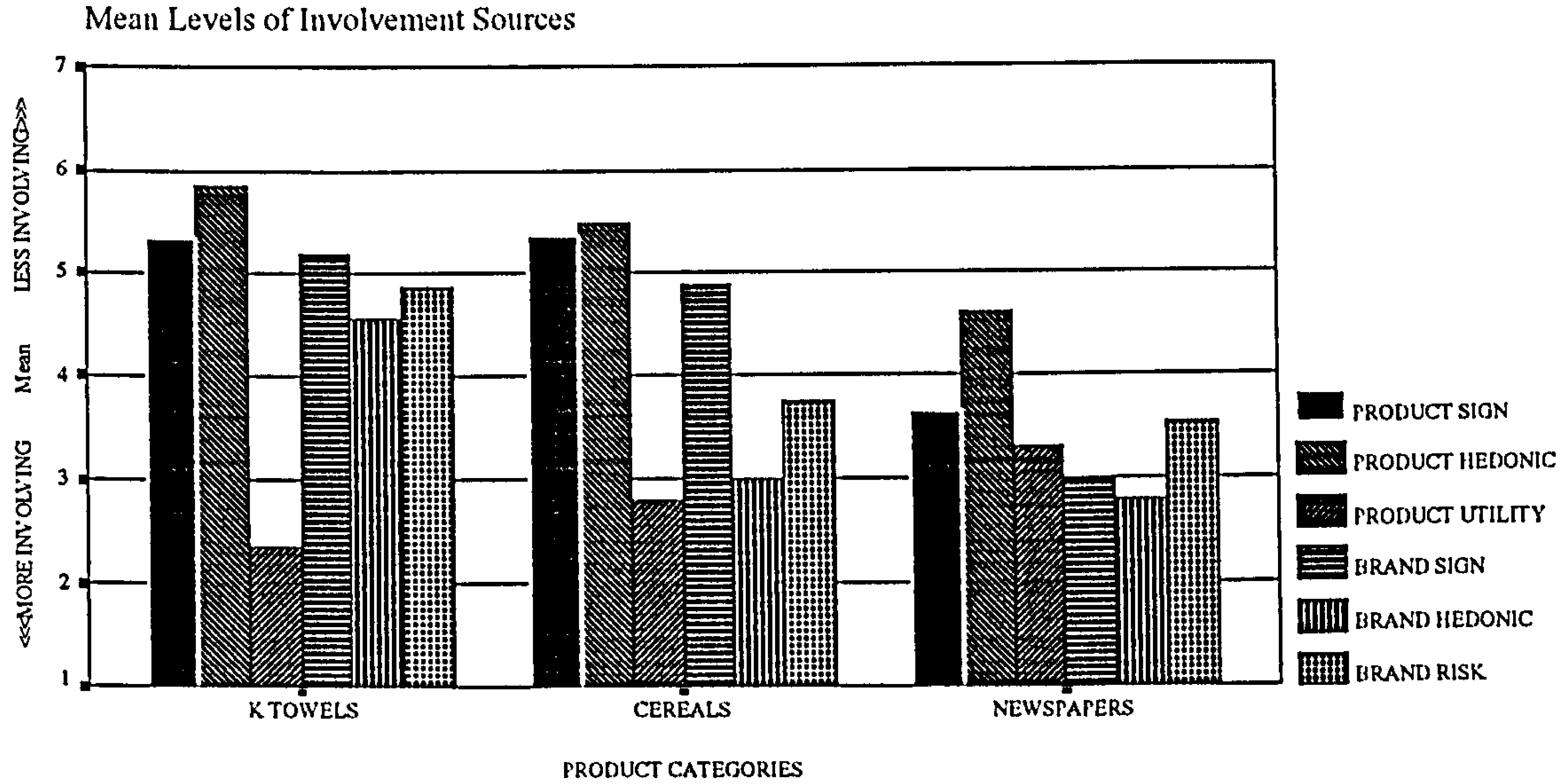


Figure 6.5 Milton Keynes Panel

Mean Levels of Involvement Sources



Kitchen towels and Cereals show very low levels of product sign and product hedonic, but very high levels of product utility. In contrast, newspapers show medium to high levels hedonic, sign and utility. These results are intuitively plausible but, when considered along with the results from the forms of involvement, they call into question the role of utility as an antecedent to product involvement ie. because the levels of product involvement are lower for kitchen towels and cereals which implies that utility will be negatively correlated with involvement.

Not surprisingly, brand sign is substantially higher for newspapers than for either cereals or kitchen towels.

A one way analysis of variance on the levels of involvement is shown in appendix (IV), the significant differences derived from this are shown in table 6.1. The results of this analysis are similar to those found in the pilot phase of the research (see table 4.3) ie. that the separation of mean involvement levels (sources and forms) between newspapers and kitchen towels is always significant and the difference between cereals and the other two product categories is predominantly significant. The level of product involvement is significantly different between all three product categories.

6.5 Brand Commitment and Brand Support

6.5.1 Introduction

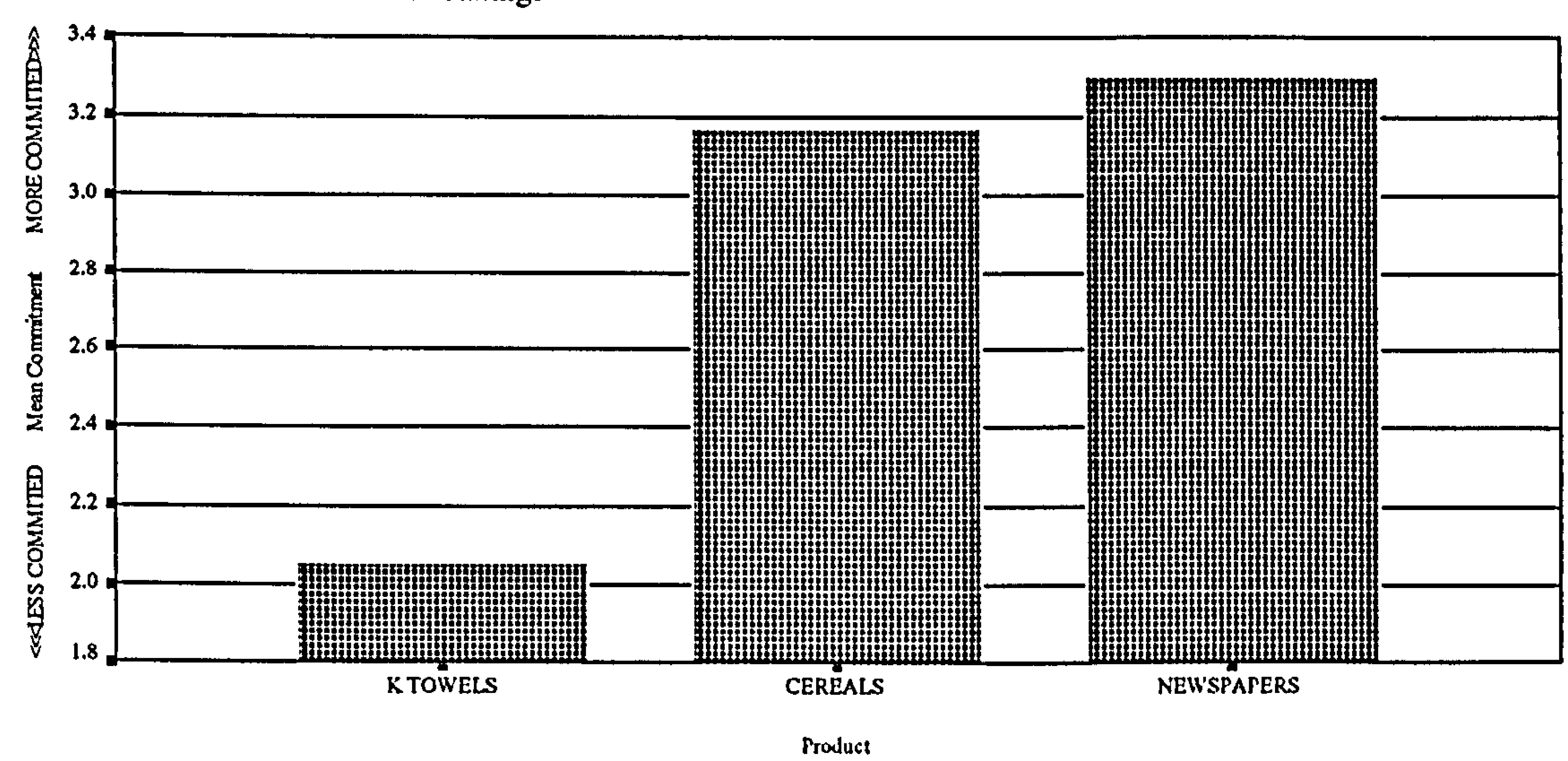
The construct of brand loyalty is considered in this research to be composed of the two dimensions, commitment and behavioural support (see section 3.2). Two items were included to elicit levels of commitment in the first of the survey questionnaires. Actual behaviour was recorded on the diary sheets during the panel recording period and hence, an index of behavioural support can be derived from this data. The following sections review the basic levels of these two variables.

6.5.2 Brand Commitment

Chart 6.6 shows the mean levels of commitment for the three product fields. The plot shown is of the mean of the two commitment scales used.

Figure 6.6 Milton Keynes Panel

Combined Commitment Ratings



As might be expected, reported commitment to newspapers is the highest, followed by breakfast cereals and kitchen towels. The fact that the order of the mean scores for the three products are consistent with those for involvement implies some association between these two variables. This is consistent with the proposed structure of the involvement / commitment model as detailed in section 7.1.

6.5.3 Brand Support

The purpose of this research is to identify generalisable relationships between the construct of involvement and purchasing behaviour. Since the involvement construct describes the **relationship** between the individual and the product, it is a construct that applies equally between and within product categories. This research was designed to utilise this fact by collecting data across three product fields and analysing the data for relationships both on aggregate and within each product field. However, in order for such an analysis to be successful a measure of **behaviour** is required that applies across brands and across any product category. Secondly, the behavioural measure must satisfactorily replicate the behavioural component of the conceptual definition of brand loyalty presented in section 2.3.3.

The simplest such measure is an index of brand support that reflects the extent to which purchasing ((1) within a product field, (2) for an individual) is devoted to a limited set of brands from a greater number that are available. Such an index could be estimated from the panel data using the following simple formula:

$$\text{Brand Support Index (BSI)} = \sum_{\text{Brand n}}^{\text{Brand 1}} \left(\frac{(\text{Purchases of Brand (n)})^2}{(\text{Total Purchases product})^2} \right)$$

The measure reflects simply the devotion of purchasing to a limited set of brands from the product field. These do not have to be the individual's favourite brands, the measure is solely a indication of behaviour (precisely what was required). However, as it stands the measure takes no account of the run length of the purchasing period. This is a shortcoming of the index since a short run devotion to a limited set of brands (say, a single brand purchase) followed by a long break has an intuitive conflict with the notion of high brand support and indeed, such an event may be entirely random. One method of dealing with this is to multiply the index through by some function of the number of purchases. This increases the weight of the individuals who purchase a limited number of brands with high purchase frequency. In this research the final index used was thus:-

$$\text{Brand Support Index (BSI)} = \sum_{\text{Brand n}}^{\text{Brand 1}} \left(\frac{(\text{Purchases of Brand (n)})^2}{(\text{Total Purchases product})^2} \right) \times \text{Log(No. of Purchases)}$$

In addition to the log modification of the index, single purchases were completely eliminated (they were treated as missing values).

Charts 6.7 to 6.9 show the overall number of purchases for the three products.

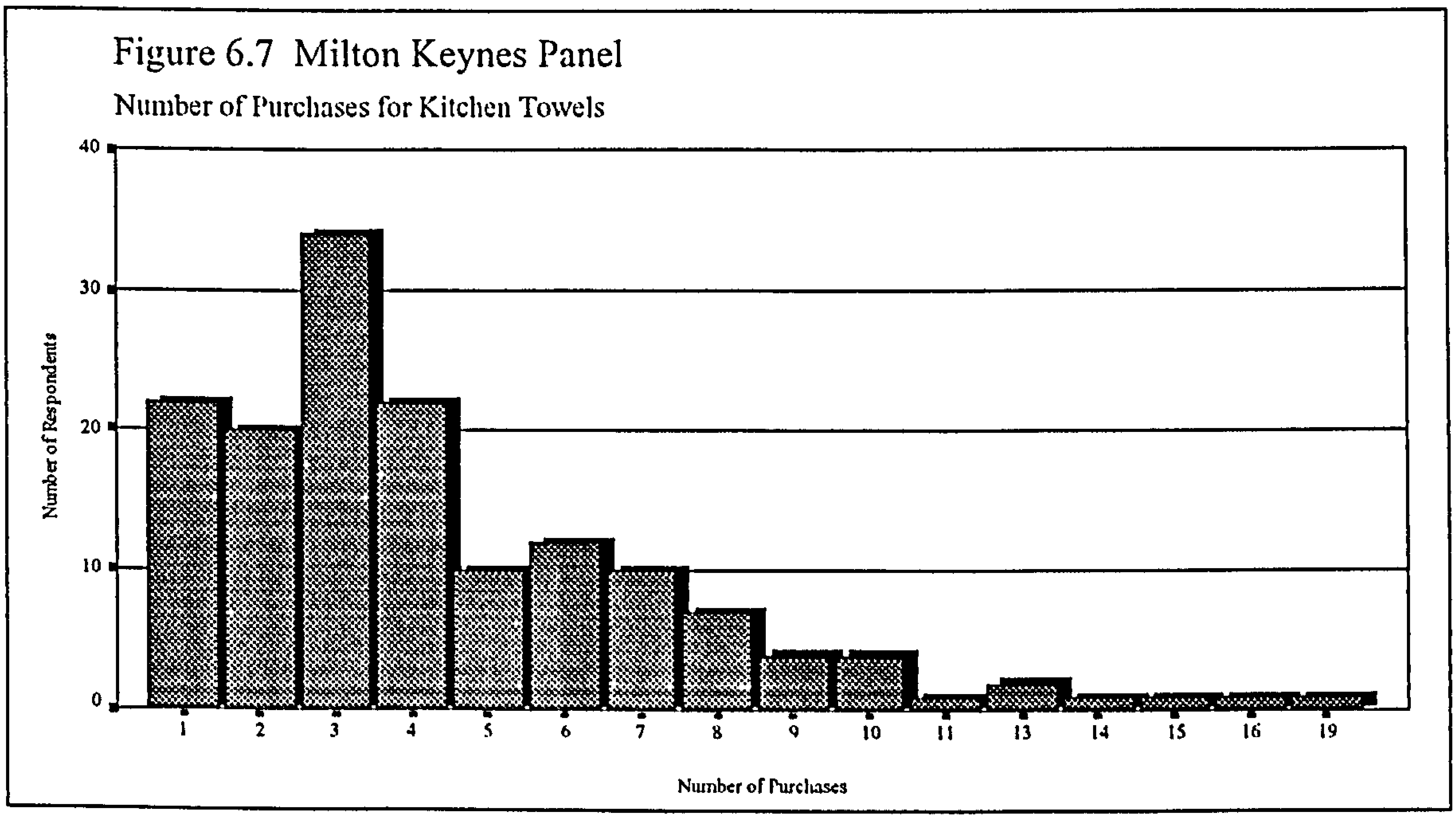


Figure 6.8 Milton Keynes Panel

Number of Purchases for Breakfast Cereal

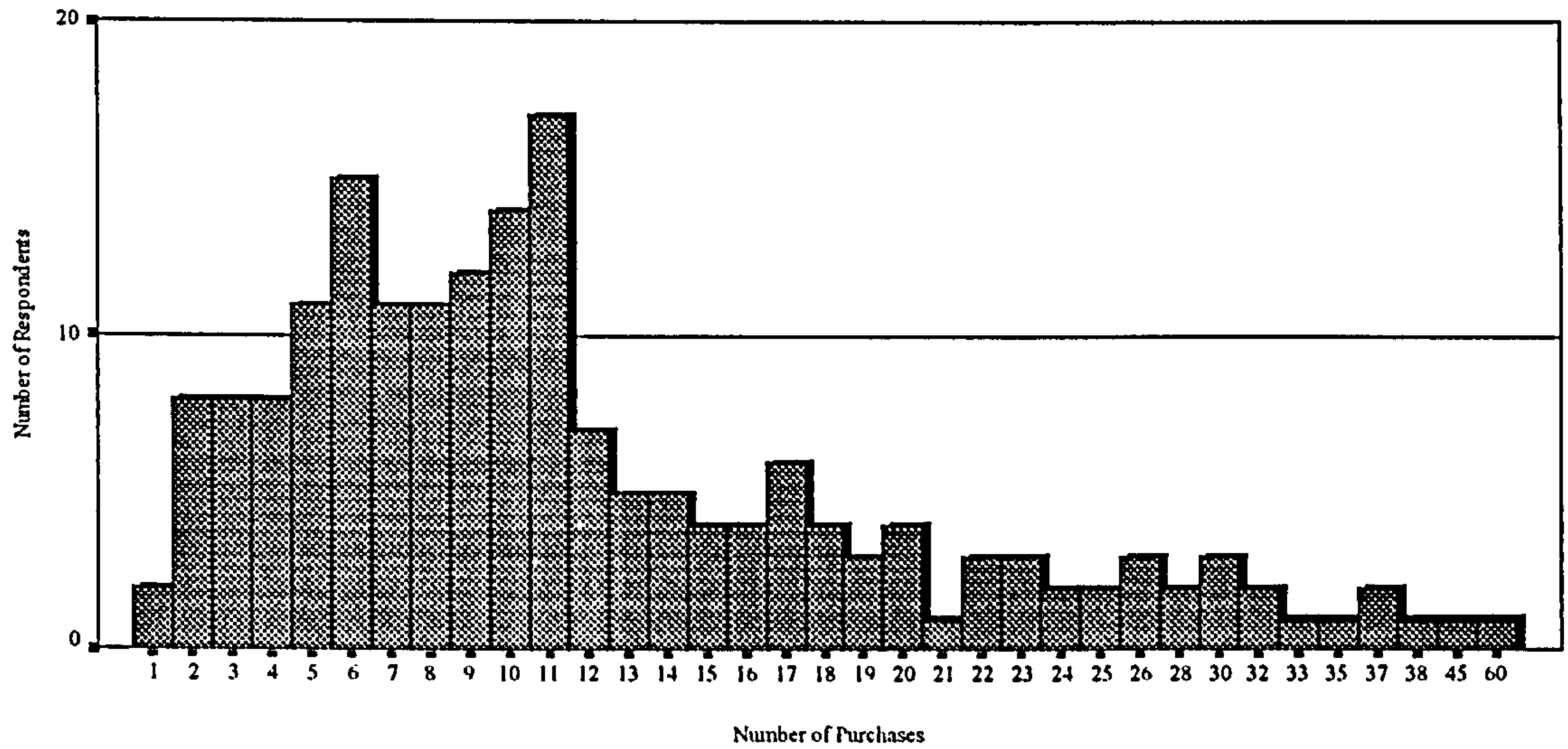


Figure 6.9 Milton Keynes Panel

Number of Purchases for National Newspapers

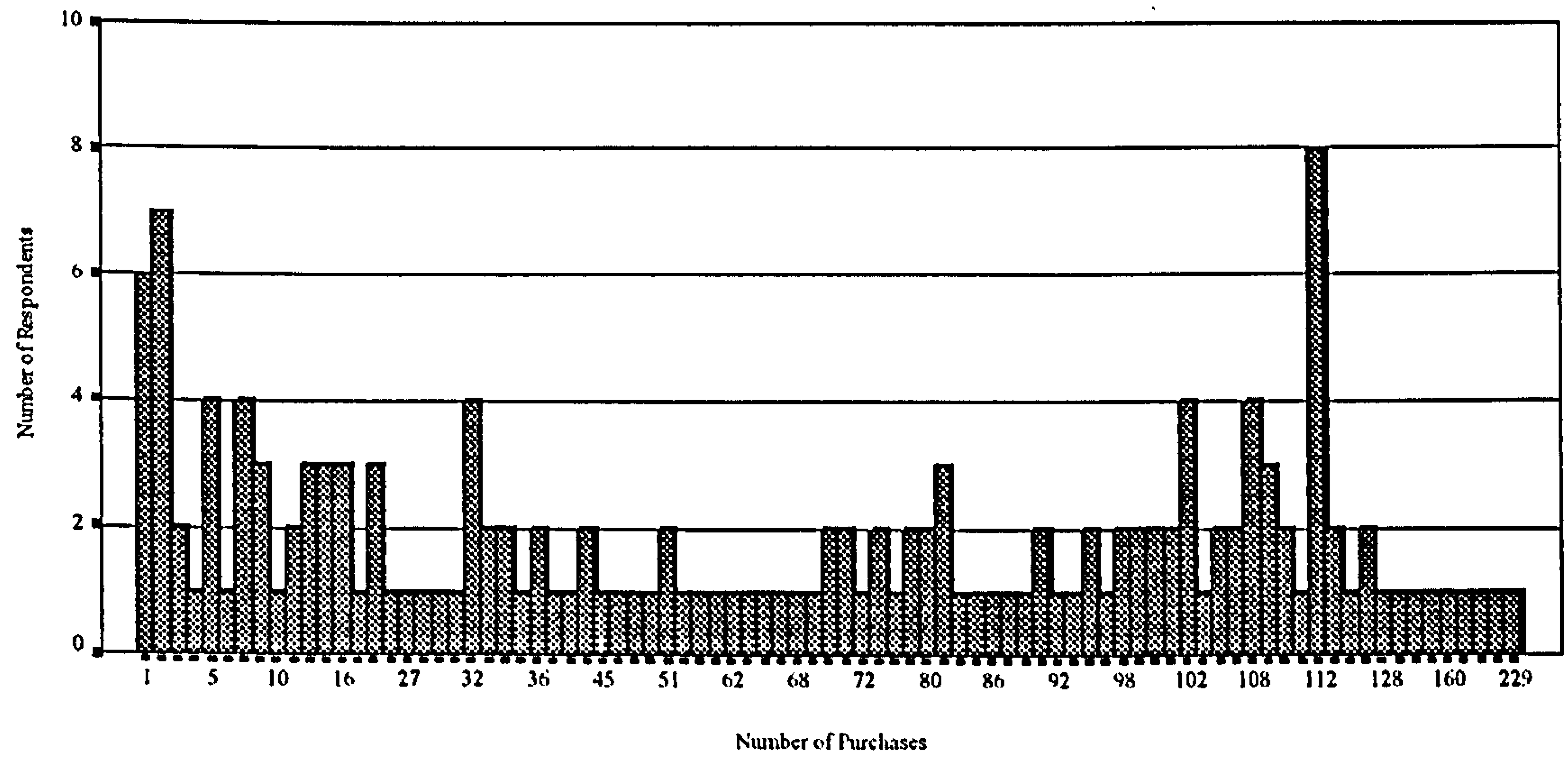
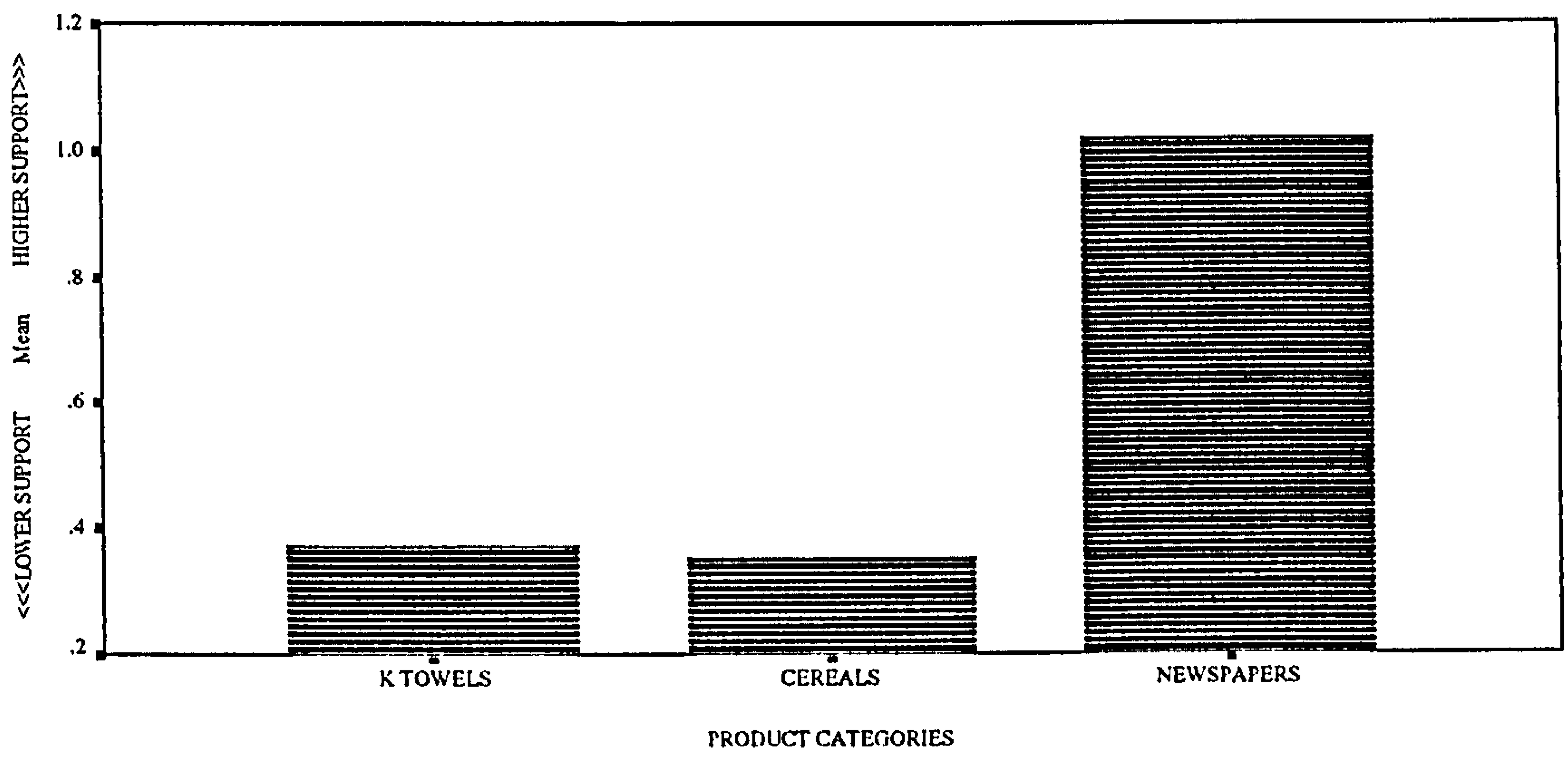


Chart 6.10 shows the modified brand support index. This chart shows that the levels of behavioural support are less distinct between product categories and do not follow the same pattern as the levels of commitment (see chart 6.6).

Figure 6.10 Milton Keynes Panel

Mean Modified Brand Support Index



The main difference is that the level of behavioural support for breakfast cereals is lower than would be expected. This key difference occurs because purchasers of breakfast cereals have larger brand portfolios than kitchen towel purchasers. The implications of this and the other basic results are developed further in chapter 7 below.

7 INVOLVEMENT AND REPEAT PURCHASE BEHAVIOUR

7.1 Introduction

This chapter examines the application of the proposed model of involvement and brand support to the data gathered in this study. The model is specified initially to include the constructs of brand commitment and brand support. This basic model is shown in figure 7.1. The relationship between the two constructs, commitment and support, and brand loyalty is then discussed. The approach used to examine the model is that of structural equation modelling, the model is estimated using LISREL VII. A brief introduction to this methodology is presented prior to the analysis of the proposed involvement / support model. Detailed information on the interpretation of the diagnostic information provided by the analysis is contained in section 7.3 (using the first analysis as an example). In subsequent sections, the values of the diagnostic information are reported but with less extensive explanation.

7.2 Structural Equation Modelling and LISREL

7.2.1 Basic Principles

The method of structural equation modelling or path analysis amounts to specifying and estimating a series of structural relationships between concepts. In the basic model the relationship between concepts themselves are specified. In figure 7.1, these relationships are represented by the coefficients labelled Beta (β) and Gamma (γ): this is the structural part of the model. LISREL also allows models to be specified which use multiple indicators for the concepts. That is, models where an underlying concept (eg. Brand Risk) is assumed to be

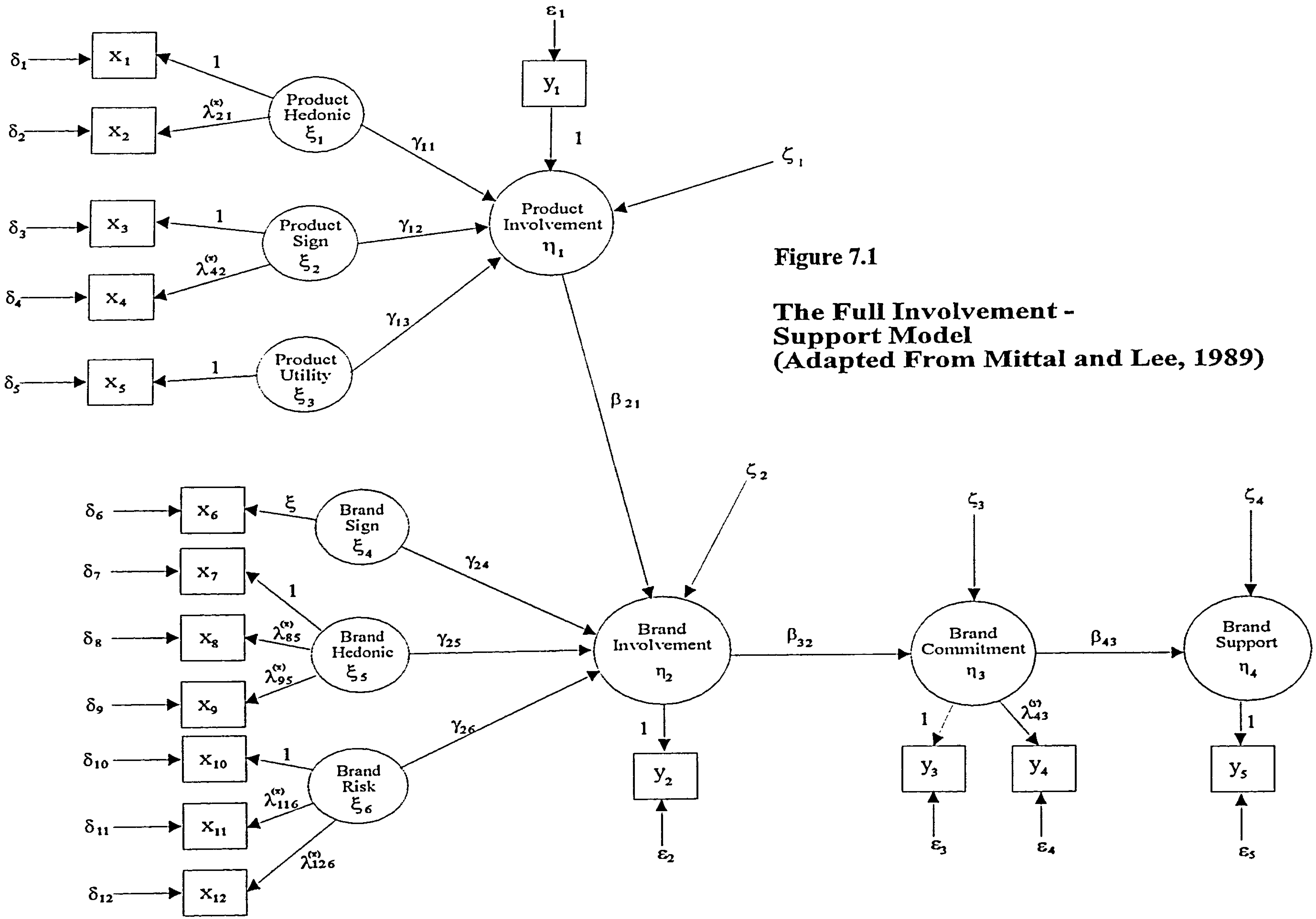


Figure 7.1

The Full Involvement - Support Model (Adapted From Mittal and Lee, 1989)

measured by a number of imperfect indicators of the concept ($x_{(n)}$ and $y_{(n)}$). In figure 7.1 the relationships between the indicators and the underlying concepts are represented by Lambda (λ). This is the confirmatory factor part of the model. Errors are allowed in structural equations (zeta (ζ)), and in variables (Epsilon (ε) and delta (δ)). Using LISREL it is possible to estimate the value of all of these coefficients simultaneously. Therefore, it is possible to estimate the true structural relationships among concepts even where the concepts are measured by imperfect indicators (Joreskog & Sorbom, 1989). The relationships in both the structural and measurement model can be expressed as a series of equations. These equations have a similar form to those used in multiple linear regression. However, in contrast to simple multiple regression, the equations are all estimated simultaneously in LISREL. The equations for the preliminary model (shown in figure 7.1) under study here are shown below:-

An explanation of the notation used is shown at the beginning of this volume.

Structural Model:

$$\eta_1 = \gamma_{11}\xi_1 + \gamma_{12}\xi_2 + \gamma_{13}\xi_3 + \zeta_1$$

$$\eta_2 = \beta_{21}\eta_1 + \gamma_{24}\xi_4 + \gamma_{25}\xi_5 + \gamma_{26}\xi_6 + \zeta_2$$

$$\eta_3 = \beta_{32}\eta_2 + \zeta_3$$

$$\eta_4 = \beta_{43}\eta_3 + \zeta_4$$

Measurement Model in X

$$x_1 = \xi_1 + \delta_1$$
$$x_2 = \lambda^{(x)}_{12}\xi_1 + \delta_2$$
$$x_3 = \xi_2 + \delta_3$$
$$x_4 = \lambda^{(x)}_{42}\xi_2 + \delta_4$$
$$x_5 = \xi_3 + \delta_5$$
$$x_6 = \xi_4 + \delta_6$$
$$x_7 = \xi_5 + \delta_7$$
$$x_8 = \lambda^{(x)}_{85}\xi_5 + \delta_8$$
$$x_9 = \lambda^{(x)}_{95}\xi_5 + \delta_9$$
$$x_{10} = \xi_6 + \delta_{10}$$
$$x_{11} = \lambda^{(x)}_{116}\xi_6 + \delta_{11}$$
$$x_{12} = \lambda^{(x)}_{126}\xi_6 + \delta_{12}$$

Measurement Model in Y

$$y_1 = \eta_1 + \varepsilon_1$$
$$y_2 = \eta_2 + \varepsilon_2$$
$$y_3 = \eta_3 + \varepsilon_3$$
$$y_4 = \lambda^{(y)}_{43}\eta_3 + \varepsilon_4$$
$$y_5 = \eta_4 + \varepsilon_5$$

The input for analysis can either be the covariance matrix or the correlation matrix. LISREL is then able to estimate coefficients in combination and value which in some sense can be used to reproduce the covariance matrix as closely as possible . The most widely used estimation technique is maximum likelihood (ML); in principle this method maximises the likelihood that the difference between the modelled covariance matrix and the actual covariance matrix is random.

7.2.2 History and Application

LISREL is now the most widely available program for estimating structural equation models. It was developed originally to estimate factor models in the late 1960s by Joreskog and Sorbom. It has since developed into a generalised program for estimating many different forms of structural equation and factor models.

The attraction of LISREL in the social sciences is that it provides a method whereby structural (causal) relationships can be estimated from data gathered by survey. Providing that a model or a limited number of alternative models can be specified from sound theory a priori the true structural relationships between the variables in the model can be estimated (Joreskog & Sorbom, 1989)[1]. This is possible because multiple indicators can be used to measure an underlying concept, and the relationships between the indicators and the concept can be estimated in one step along with the relationships between the actual concepts in the model. In fact, even where multiple indicators are not available for all the concepts, a satisfactory causal model can still be specified by using estimates of the indicators' error terms derived from other studies or judgement (Hayduk (1987)).

In addition to the one-step estimation of the path analysis model and the measurement model LISREL has several other advantages. Firstly, non-recursive relationships can be specified which may be more realistic for certain marketing relationships (see Bagozzi, 1980; Lehman, 1989). Secondly, LISREL encourages the use of tightly and fully-specified models. This helps to ensure that the concepts are adequately operationalised by demanding a full

[1] For a discussion of whether these relationships are truly causal see Hayduk (1987) pp. xv and Bagozzi (1980).

understanding of the theory and an ongoing interplay between theory and modelling. Hayduk, 1987 notes that "This rapprochement *(referring to the relationship between theory and modelling)* forces users to become experts at their theory, rather than mere number crunchers" pp. xv. A background to causal models in marketing can be found in Bagozzi (1980). A lucid description of the theory and application of LISREL can be found in Hayduk (1987), further details of the application of LISREL can be found in Joreskog and Sorbom (1988, 1989).

7.3 The Involvement Loyalty Model and the Aggregate Data

7.3.1 Background

In this first phase of the investigation into the relationship between involvement and loyalty, the model shown in figure 7.1 was estimated using data aggregate across all three of the product fields. The thinking behind the actual specification of the model is discussed extensively in section 3.2.2. The rationale for using the aggregate data rather than the three product fields individually was twofold. Firstly, the whole thrust behind this work was to validate a generalisable model of involvement and loyalty. Since the constructs themselves relate to the relationship between the individual and the object, they should apply equally in each product field. Secondly, the use of the aggregate data ensures that the maximum amount of variance is contained in the data and, hence, gives the best chance of isolating the relationships within it ie. avoidance of type II errors which is preferable in exploratory research of this type (Keppell (1973)). In addition to this, the use of the larger effective sample size allows the model to be estimated using Weighted Least Squares which is more robust against deviations from multivariate normality than Maximum

Likelihood (ML) estimation. However, this approach may be questioned on philosophical grounds: it would be more elegant to test the models on the three different data sets individually **first** (see Nunally, 1967). Despite this it should be easier to identify the most appropriate model using the aggregate data; it can then later be tested on the data for the individual product fields.

7.3.2 Preliminary Model Estimation

The model estimated in the first instance was identical to the one shown in figure 7.1. The data used was aggregate across all three of the product fields. Prior to estimation, the covariance matrix and the asymptotic covariance matrix was estimated using DOS PRELIS V1.0. The model was then estimated with LISREL using Weighted Least Squares. This method is preferable where the sample size allows because it is robust for deviations from multivariate normality. The full output from the model estimation is contained in appendix (V).

7.3.3 Interpreting the Basic Results

The overall fit of a LISREL model is generally assessed by the Chi square test (χ^2). This test (χ^2) is essentially a measure of the non-fit of the model and therefore should (ideally) be non-significant. However, this would only be the case where the model is a perfect representation of reality. Joreskog and Sorbom, 1989 note that:

> "Although the chi-square measure may be viewed theoretically as a test statistic for testing the hypothesis that the sigma (Σ) is of the form implied by the model against the alternative that sigma (Σ) is unconstrained, it should be

emphasised that such use of the chi-square is not valid in most applications. In most empirical work the model is only tentative and is only regarded as an approximation of reality"......."Instead of regarding Chi-square as a test statistic, one should regard it as a goodness (or badness) of fit measure in the sense that large chi-square values correspond to a bad fit and small values to a good fit."

Joreskog & Sorbom, 1988, pp.43

Hence, in practice the chi-square statistic (χ^2) can be used as a guide to the overall fit of the model and is limited, to some extent, to comparing alternative models. The size of the statistic can be judged relative to the number of degrees of freedom. The value of the absolute size of the chi-square ratio (Chi-square (χ^2) to degrees of freedom) that is considered to constitute an acceptable model fit is the subject of great debate in the literature (see Hayduk, 1987, pp. 160-171). Wheaton et al , 1977 suggest a chi-square ratio of up to five times the degrees of freedom whilst Carmines and Melver (1981) suggest that two to three times is more acceptable.

Other measures of fit provided by LISREL include the goodness-of-fit index and the adjusted goodness-of-fit index. The index can only really be used for comparing alternative models as there is no consensus in the literature about which values are acceptable or not. An explanation of the derivation of the index is provided in Joreskog and Sorbom (1988) pp.44.

Other indicators of the model's adequacy are the overall coefficient of determination of the structural equations (similar to the R square in regression analysis). This indicates the portion of the variance that the model is able to explain.

The basic diagnostic indicators for the model fit are shown in Table 7.1.

Table 7.1 Basic Indicators of Full Model Estimated Across All Products with WLS (N=466)

CHI SQUARE (χ^2)	=	350.73	(With 100 degrees of Freedom)
Goodness of Fit Index	=	0.920	
Adjusted Goodness of fit index	=	0.877	
R Square Overall for Structural Equations	=	0.900	

Squared Multiple Correlations for structural equations, ie. variance explained in:

Product Involvement	=	0.571
Brand Involvement	=	0.887
Brand Commitment	=	0.882
Brand Support	=	0.165

At first glance, these results all appear to be highly satisfactory: a substantial portion of the variance appears to be explained by the model and the fit indicators all appear reasonable. However, further examination of the output shows that three of the antecedents of involvement have small (substantively unimportant) and non-significant structural coefficients and that this may partly be due to estimation difficulties. The values of the structural coefficients are considered next.

7.3.4 Size and Significance of the Structural Coefficients and the Possibility of Empirical Under-identification

The structural coefficients implied by the full model are shown below in table 7.2.

Table 7.2 - Structural Coefficients for Full Model Estimated Across All Products. (N=466)

GAMMA (γ) - Coefficient between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Sign	Product Hedonic	Product Utility	Brand Sign	Brand Hedonic	Brand Risk
Product Involvement	.218	.647	.034	.	.	.
Brand Involvement	.	.	.	-.010	.087	.754

BETA (β) - Coefficients between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	.247		
Brand Commit		.871	
Brand Support			-.217[2]

These Coefficient can be regarded as similar to ordinary regression-effect coefficients. That is, they may be

[2] Coefficient is negative only because scale direction for variable reversed

interpreted as the magnitude of the change in the dependent variable that would be predicted to accompany a unit change in the independent variable if the other independent variables in the model remain untouched (see Hayduk, 1987, pp. 245).

It can be seen from these tables that certain of the coefficients appear to be too small to be of substantive interest. For instance three of the sources of involvement (product utility, brand sign and brand hedonic) the coefficients are approaching zero and are therefore unlikely to be of use in modelling. The standard errors of these coefficients are in any case too high for them to be significant. The "T values" for the structural model coefficients are shown in table 7.3

Table 7.3 T values for Full Model Estimated Across All Products with WLS (N=466).

GAMMA (γ)- T values between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Sign	Product Hedonic	Product Utility	Brand Sign	Brand Hedonic	Brand Risk
Product Involvement	2.73	8.91	.843	.	.	.
Brand Involvement	.	.	.	-.276	1.37	9.49

Table 7.3 (cont.)

BETA (β) - T values between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	6.92		
Brand Commit		21.2	
Brand Support			-8.53

(Values of T are significant at p=.01 where T > 2.6)

These results imply that the constructs of product utility, brand sign and brand hedonic are not contributing to the fit of the model. Examination of the correlations of the parameter estimates shows that some of the correlations between the parameters within the phi matrix are approaching 0.9 (the cut off value suggested by Hayduk, 1987 pp.176). This implies that the values of the coefficients may be unstable and their low values could be due to empirical under-identification of the model[3]. However, the highest correlation is in fact only 0.88 and the coefficients are very small (as opposed to being large with large standard errors) which suggests that the most likely explanation is that the coefficients are indeed non-significant and should be removed from the model.

7.3.5 The Measurement Part of the Model

It was seen from the pilot phase of this work that a number of indicators had to be removed from the questionnaire in

[3] Empirical under-identification in LISREL terminology is similar to the concept of multicollinearity in regression analysis and generally arises in models of this sort when the concepts are very similar

order to obtain satisfactory responses from consumers. This means that the measurement part of the model is not identified for all of the constructs under consideration (ie. for the two forms of involvement and for product utility and brand sign) and less strongly identified for the two constructs measured with only two indicators. However, the pilot work allows estimates to be made of the reliability of these constructs which (consistent with Hayduk, 1987) can be incorporated into the model. The error terms (Epsilon (ε) and Delta (δ)) can therefore be held fixed for these constructs so that the model again becomes identified. The error terms are held fixed at the level of their reliability (as estimated from the pilot phase) multiplied by the variance for the particular construct as estimated for the main analysis. The indicator of brand support which was derived from the panel data was not possible to test in a pilot phase since it is a directly measured behavioural variable. In the absence of any reliability data the measure was given a subjective reliability of 90%.

It can be seen from the output contained in appendix (V) that the coefficients between all the indicators and the constructs (where free) are close to one which implies that the underlying factors are consistently related to the indicators. The T values for the indicators (for both the endogenous and exogenous variables) are all highly significant (well above the 99% confidence interval). Hence the test instrument appears to be adequately performing the measurement functions required. The extensive reliability tests already carried out, both in the pilot phase of this work and in Mittal and Lee (1989), mean that no further investigation of the measurement part of the model will be necessary.

7.4 Interpretation, Substantive Considerations and Model Modification

Mittal and Lee (1989) show all the sources of involvement to be significant causes of their respective forms of involvement for either one or both of their product fields. However, the results from this analysis show that product utility, brand sign and brand hedonic do not have a significant relationship with their respective forms of involvement. Considering the low overall levels of involvement for these product fields, this result may be less surprising. Indeed, the interpretation of these constructs for products with such low intrinsic interest as kitchen towels may be marginal.

This evidence alone is clearly not sufficient to suspend belief in the legitimacy of the constructs as antecedents to involvement in general. However, the values of the coefficients here are so low as to render the constructs completely ineffective in making a contribution to the fit of the model for these "low involvement" products. The constructs of product utility, brand sign and brand hedonic will therefore be removed from the next stage of modelling based on these empirical results. However, the removal of these constructs affects the identification status of the model[4] and makes the estimation of the two remaining product sources unreliable (ie. because there will be fewer measures overall for the model to estimate the individual effects). For this reason the least significant of the two, product sign, is also removed prior to the next reported estimation phase[5]. These modifications are clearly acceptable from a metatheoretical point of view

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[4] Not in a structural sense, but in the sense of empirical identification due to the high collinearity of the sources.

[5] The intermediate estimation phases were of course all carried out, as indeed were all these phases for the disaggregate (product level) data. However, in the name of clarity and parsimony only selected phases are reported here.

because they are based on empirical evidence and are not in conflict with the theory used to build the model (they merely simplify it).

With the exception of the sources of involvement noted above, all other structural parts of the model show strongly determined relationships ie. product involvement is a significant antecedent of brand involvement which is a significant antecedent of brand commitment which is a significant antecedent of brand support. Around 57% of the variance in product involvement is explained by the it's sources (principally, product hedonic), 89% of the variance in brand involvement is explained by it's sources (principally product involvement and brand risk) and 88% of the variance in brand commitment is explained by brand involvement. Finally, the model shows that around 17% of the variance in the final dependent construct of brand support is explained by brand commitment.

7.5 A Note on Estimation Method

In section 5.2.3 it was noted that LISREL provides several methods of estimation. WLS was selected for use in this stage of the analysis in order to optimise the use of the available sample (WLS is the preferred estimation method overall but demands large samples). For the models to be estimated using the disaggregate data, the maximum likelihood method will have to be used since the sample sizes are too small to use WLS. For this reason, an estimate of the full original model using the aggregate data was also carried out using ML for comparative purposes. The full output from this is contained in appendix (V). Although the values of the Coefficient differ in detail, the substantive interpretation of the model remains as for WLS, with one exception. The coefficient for product sign fails to be significant when estimated with ML. This is of little consequence here since the construct was only marginal when estimated with WLS and was in any case to be dropped (see above). However, this does show that there may be some minor differences in the interpretation of the model for various estimation techniques. One further point to note is that some of the diagnostic information, in particular the Chi square test and the standard errors (and hence the T-stats) are less reliable when the model is estimated with ML. This point should be borne in mind when considering the results for the individual product fields which are reported below in section 7.7.

7.6 The Revised Involvement-Support Model for the Aggregate Data

7.6.1 Specification and Basic results

The simplified model for involvement and brand support is shown in figure 7.2. The model now contains a single exogenous source for each of the involvement constructs. Product involvement remains an antecedent of brand involvement. The model was again estimated using the data aggregate across all three product fields and using weighted least squares. Measurement details are the same as those described above in section 7.2.4. The basic fit of this revised model is shown below in table 7.4. The full output is again shown in appendix (V).

Table 7.4 Basic Indicators of the Simplified Model Across all Products using WLS (N=466)

CHI SQUARE (χ^2)	=	173.1 (With 41 degrees of Freedom)
Goodness of Fit Index	=	0.931
Adjusted Goodness of fit index	=	0.890
R Square (R^2) Overall for Structural Equations	=	0.913

Squared Multiple Correlations for structural equations, ie. variance explained in:

Product Involvement	=	0.574
Brand Involvement	=	0.885
Brand Commitment	=	0.832
Brand Support	=	0.155

Using the ratio to degrees of freedom measure of the Chi square statistic the overall fit of this model appears to be worse than for the full model. However, the remainder of the fit statistics are all better and whilst a satisfactory chi-square statistic is desirable, significant coefficients are essential and it will be seen below that this criterion is achieved for this simplified model (see table 7.6).

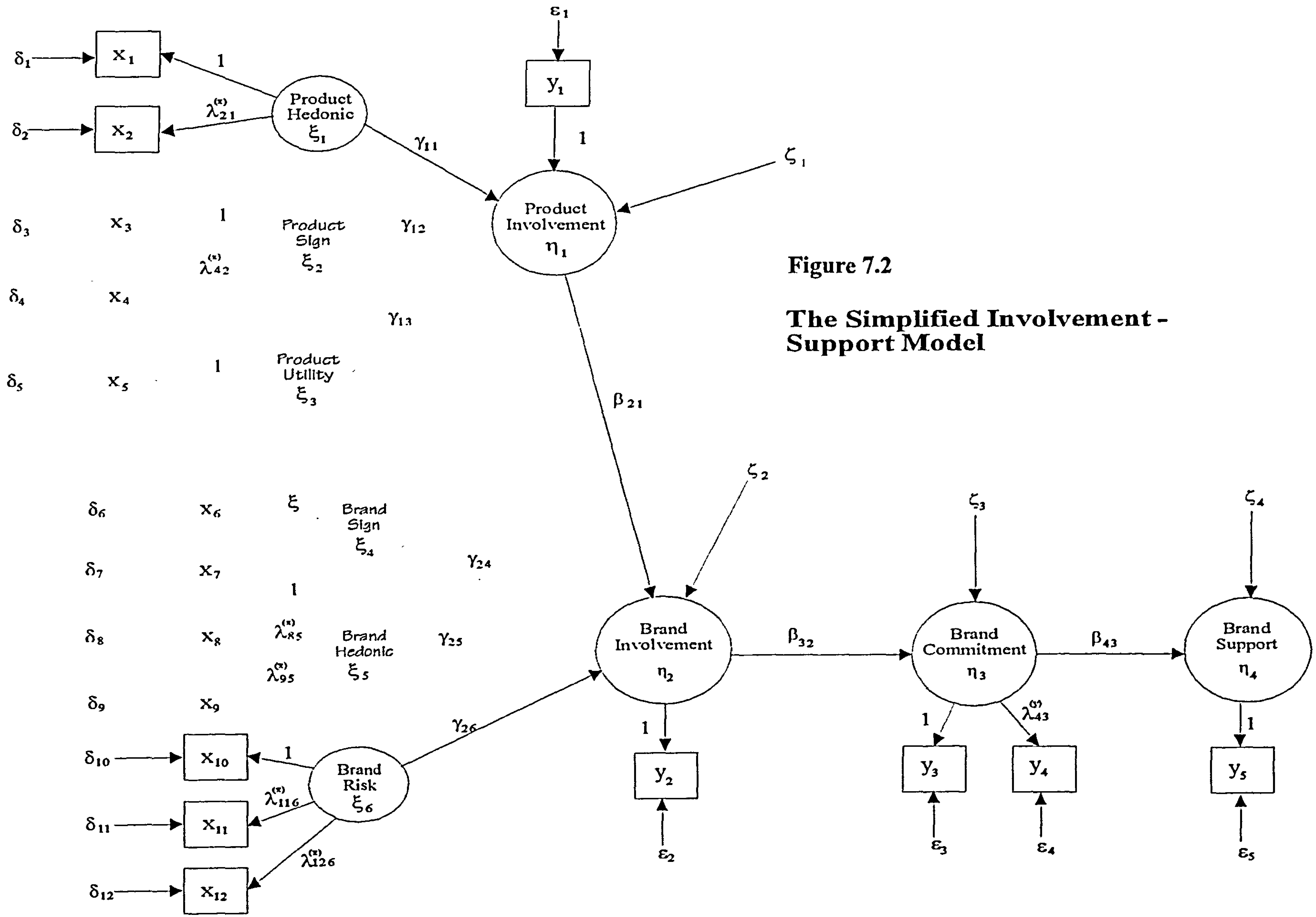

Figure 7.2

The Simplified Involvement - Support Model

7.6.2 Size and Significance of the Structural Coefficients and Issues of Empirical identification

The structural coefficients implied by the simplified model are shown below in table 7.5.

Table 7.5 - Structural Coefficients for the Simplified Model Across All Products using WLS (N=466).

GAMMA (γ) - Coefficient between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Hedonic	Brand Risk
Product Involvement	.817	
Brand Involvement		.956

BETA (β) - Coefficients between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	**Brand Inv.**	**Brand Commit**
Brand Inv.	.210		
Brand Commit		.806	
Brand Support			-.227

The coefficients between the endogenous constructs are very similar to those produced by the full model (identical for all practical purposes). The coefficients between the sole remaining sources of involvement and the two forms of involvement are significantly higher than in the full model. There are two reasons for this: firstly, the removal of the collinearity between the retained constructs and the removed involvement sources; secondly, possible specification error due to the removal of the other sources which were marginally significant (ie. product sign). Overall the merit of having a more parsimonious model with coefficients which are all significant favours the simplified model despite the possibility of some specification error. In addition to this the reduced form of the model does have a certain appeal from a substantive point of view - this is discussed further below in chapter 9.

Table 7.6 T values for the Simplified Model Across All Products Using WLS (N=466)

GAMMA (γ) - T values between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Hedonic	Brand Risk
Product Involvement	18.9	
Brand Involvement		11.295

Table 7.6 (cont.)

BETA (β) - T values between Involvement forms and between involvement, commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	4.989		
Brand Commit		18.509	
Brand Support			-7.741

(Values of T are significant at p=.01 where T > 2.6)

The results in table 7.6 imply that all the constructs remaining in the model are contributing to the fit of the model. A further improvement in the model is in the robustness of the parameter estimates ie. a small improvement in the empirical identification of the model. The highest correlation between two parameter estimates is now .793 which is around 0.1 lower than for the full model and well within the acceptable range.

7.7 Results from the Simplified Model for the Individual Products

Having established the specification of the model using the maximum available data, the simplified involvement-support model was tested with the data from the three individual product fields. The full output from each of these analyses is contained in appendix (V). The basic results from the models are shown in tables 7.7 to 7.9 below.

Table 7.7 Basic Results from the Simplified Involvement-Support Model for National Newspapers Using ML (N=150)

Fit Statistics:

CHI SQUARE (χ^2)	=	76.34 (With 41 degrees of Freedom)
Goodness of Fit Index	=	0.918
Adjusted Goodness of fit index	=	0.868
R Square (R^2) Overall for Structural Equations	=	0.665

Squared Multiple Correlations for structural equations, ie. variance explained in:

Product Involvement	=	0.439
Brand Involvement	=	0.694
Brand Commitment	=	0.535
Brand Support	=	0.204

Structural Coefficients with T Values (in parentheses)

GAMMA (γ) - Coefficient between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Hedonic	**Brand Risk**
Product Involvement	.688 (8.1)	
Brand Involvement		.953 (4.4)

Table 7.7 (cont.)

BETA (β) - Coefficients between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	.464 (7.5)		
Brand Commit		.598 (7.6)	
Brand Support			-.326 (-4.6)

The fit of this simplified model for national newspapers is very good. The chi-square ratio is less than two and all the structural parameters are significant. The relationship between commitment and behaviour (the weakest part of the aggregate model) is significant and strong. Overall the diagnostics imply that, for this product field, the model could be used to predict levels of brand support with confidence.

Table 7.8 Basic Results from the Simplified Involvement-Support Model for Breakfast Cereal Using ML (N=185)

Fit Statistics:

CHI SQUARE (χ^2)	=	105.4 (With 41 degrees of Freedom)
Goodness of Fit Index	=	0.915
Adjusted Goodness of fit index	=	0.863
R Square (R^2) Overall for Structural Equations	=	0.624

Squared Multiple Correlations for structural equations, ie. variance explained in:

Product Involvement	=	0.278
Brand Involvement	=	0.643
Brand Commitment	=	0.412
Brand Support	=	0.011

Structural Coefficients with T Values (in parentheses):

GAMMA (γ) - Coefficient between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Hedonic	**Brand Risk**
Product Involvement	.582 (6.5)	
Brand Involvement		.895 (6.04)

Table 7.8 (cont.)

BETA (β) - Coefficients between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	.390 (7.1)		
Brand Commit		.486 (6.0)	
Brand Support			-.031 (-1.13)

The results for breakfast cereals are much less satisfactory than those for national newspapers. The overall fit of the model is worse, the chi-square ratio is 2.8, and the relationship between commitment and the behaviour measure (brand support) is no longer significant. However, the part of the model dealing with the sources and forms of involvement is satisfactory.

The lack of any significant relationship between commitment and behaviour may be attributable to the nature of the product field, which on further analysis is shown to be characterised by large brand portfolios and variety seeking. This is discussed further below in the additional analysis of the switching patterns and the practical implications are discussed in chapter 9.

Table 7.9 Basic Results from the Simplified Involvement-Support Model for Kitchen Towels Using ML (N=131)

Fit Statistics:

CHI SQUARE (χ^2)	=	64.45 (With 41 degrees of Freedom)
Goodness of Fit Index	=	0.918
Adjusted Goodness of fit index	=	0.868
R Square (R^2) Overall for Structural Equations	=	0.666

Squared Multiple Correlations for structural equations, ie. variance explained in:

Product Involvement	=	0.361
Brand Involvement	=	0.782
Brand Commitment	=	0.481
Brand Support	=	0.019

Structural Coefficients with T Values (in parentheses)

GAMMA (γ) - Coefficient between involvement antecedents and involvement forms (exogenous and endogenous variables in the model):

	Product Hedonic	**Brand Risk**
Product Involvement	.769 (7.36)	
Brand Involvement		.898 (4.37)

Table 7.9 (Cont.)

BETA (β) - Coefficients between Involvement forms and between involvement and commitment and behaviour.

	Product Inv.	Brand Inv.	Brand Commit
Brand Inv.	.509 (7.37)		
Brand Commit		.588 (6.87)	
Brand Support			-.042 (-1.31)

The model for kitchen towels shows a good fit overall (the chi-square ratio is again less than 2), but consistent with the findings for breakfast cereals there is no significant relationship between commitment and the brand support measure. However, the reasons for this lack of relationship are somewhat different as will be shown below in section 7.9.

Overall the fit of the models appears to be better for the disaggregate data. The model for National newspapers is good in all respects. For the other two models the overall fit is good and the part of the model dealing with involvement sources, involvement and commitment is satisfactory. However, for breakfast cereals and kitchen towels, the relationship between commitment and support breaks down in the model - the (very small) coefficients fail to be significant even at the 95% level.

The model that was proposed originally (see figure 7.1) was also tested at the individual product level. The estimates from these models all support the decision to simplify the model and also provide similar estimates for the retained coefficients as the simplified model. However, the high correlation between the parameter estimates, smaller sample size and ML estimation means that the estimates for the full model can only be regarded as tentative and, for this reason, they are not reported here.

These results seem to imply that any relationship between involvement and behaviour is weaker at lower levels of involvement. However, this hypothesis and indeed the specification of the linear relationship between commitment and support in the model may be too simplistic to be useful. For this reason further analysis of the levels of commitment and brand support was undertaken so that more meaningful interpretation of the models could be undertaken (see section 7.9).

7.8 Application of the Findings to the Formal Hypotheses

7.8.1 Introduction

This section considers the extent to which the formal hypotheses stated in section 3.4 are satisfied from this part of the work. That is only hypotheses concerning the relationship between involvement sources, involvement, commitment and behaviour are considered here. Those pertaining to involvement and decision making are considered in chapter 8.

7.8.2 Significance of Involvement Sources

Hypothesis H5 deals with the significance of the relationship between the sources of involvement (as proposed in Mittal and Lee's 1989 model) and the two forms of Involvement when applied to grocery products. The results presented above suggest that **the following hypotheses are convincingly rejected:-**

H5(c) "Product utility is a significant cause of product class involvement at the 95% level"

H5(e) "Brand hedonic is a significant cause of brand decision involvement at the 95% level"

H5(f) "Brand sign is a significant cause of brand decision involvement at the 95% level"

No significant relationship, even at the 90% level can be found with these variables in the model. The aggregate data model is robust enough (sufficient variance, large sample, robust estimation by WLS, logical specification) to be able to reject these hypotheses for this class of products. However, the evidence is restricted specifically to these products and the evidence is not sufficient to suspend belief in the existence of these constructs as antecedents to involvement in the more general sense. The value of the antecedents in a generalised model of involvement is discussed in chapter 9.

Hypothesis H5(b) "Product sign is a significant cause of product class involvement at the 95% level" is **tentatively accepted** according to the aggregate data model (the T stat is significant at the 95% level). However, the estimate of this particular coefficient was not particularly reliable because of the strong relationship with product hedonic. In view of this the construct was in fact dropped from the model established in this research. One recommendation regarding this is that, in future, either the two constructs, product hedonic and product sign are merged or that only one is included in the model for lower involvement products. Again further discussion of the implication of these findings for the generalised model of involvement is contained in chapter 9.

The following three hypotheses are accepted by the research:-

H5(a) Product hedonic is a significant cause of product class involvement at the 95% level

H5(d) Product class involvement is a significant cause of brand decision involvement at the 95% level

H5(g) Brand risk is a significant cause of brand decision involvement at the 95% level

Each of these three hypotheses hold whichever way the involvement-support model is estimated (ie. in either full or simplified form). The importance of these constructs as antecedents to brand involvement and the exclusion of the other constructs also makes intuitive sense. It is not unreasonable to expect the purchasing of everyday (grocery) products to be exclusively related to overall interest in the product (the product involvement component) and the risk associated with making an inappropriate brand purchase. Therefore on the preceding two counts these hypotheses are convincingly accepted.

7.8.3 Involvement Forms, Brand Commitment and Support

Hypothesis H6 "Brand decision involvement is a significant cause of brand commitment at the 95% level when the model is applied to grocery products" **is accepted for all tests of the model.** Indeed this relationship is one of the strongest.

One criticism about accepting the hypothesis may be that these two constructs are not causally related but are just too similar and have shared content. The absence of other causes and effects of commitment in the specification of the model means that it would not be entirely legitimate to conclude causality from the modelling results alone. However, the indicators used to measure commitment were deliberately selected to give the construct of commitment a behavioural context. In contrast the construct of involvement lacks this behavioural setting. Thus, there are important distinctions between the constructs and hence for application to the specific products studied here, the hypothesis is accepted.

The two hypotheses relating commitment to brand support are much less clear. Hypothesis H(7) "Brand commitment is a significant cause of brand support at the 95% level when the model is applied to grocery products" is accepted for the aggregate data and for the data set for National Newspapers, but it is clearly rejected for the other two individual data sets (kitchen towels and breakfast cereals). Hypothesis H8 "The level of association between brand commitment and brand support is stronger for more involving grocery product fields" can therefore be tentatively accepted for the same reason ie. because the relationship is non-significant when tested with the lower involvement product categories. However, acceptance is only tentative because the research design was limited to three product categories that were tested. One possibility to clarify the relationship would be to regroup the data into two or three new classifications determined by product involvement levels rather than products and re-estimate the models. However, the levels of involvement among the products are such that the involved cluster would contain mostly newspaper purchases and the uninvolved one mostly kitchen towels. Hence the exercise would not yield information which is any more valid. The only way to test the relationship would be with a new sample across many more product fields.

Hypothesis H9 "The involvement - support model provides a robust description overall of grocery product purchasing" **is rejected** because the full model contains parameters which fail the 95% confidence interval (such as product utility). The reduced form of the model is more robust for grocery product but even there the relationship with the final dependent variable, brand support, was only valid for the newspapers category data. However, overall the full model may still provide the most appropriate framework for studying involvement in the general case.

7.9 Further Analysis of the Commitment behaviour Relationship

7.9.1 Overview

One outcome of the preceding analysis was that the amount of variance explained in the behavioural measure (support for a limited set of brands out of a greater available set) was small overall, at around 20%. Further to this the relationship with behaviour was stronger for newspapers and weaker for kitchen towels and breakfast cereals (in fact, it was non-significant for these data sets). One implication of this might be that as commitment tends to zero, the relationship between commitment and behaviour deteriorates. Thus, for the two lower involvement product fields in this study no relationship could be detected. An alternative view to this hypothesis is that there is no causal relationship between commitment and behaviour at all but both are necessary and sufficient conditions for brand loyalty to exist. If this is the case the formal model presented above is mis-specified and the data may only be used descriptively.

The following analysis attempts to clarify the nature of these relationships in the light of the preceding comments.

7.9.2 Cluster Analysis

In order to identify non-linear patterns a cluster analysis was undertaken along the dimensions of brand commitment and support. Using the data aggregate across all three product fields, the two dimensions of commitment and support were used to identify groupings of cases using a simple K-means clustering procedure. Four clusters were specified in order to identify patterns outside the straight line of the linear relationship. The clustering procedure was carried out using the SPSS quick cluster procedure; the output from this analysis is contained in appendix (VI). Equal weight was given to both dimensions in the clustering procedure (this was achieved by multiplying the brand support index by five for the clustering procedure). Hence the output from the analysis is four maximally different clusters in the four quadrants of the square formed by the axis of the two dimensions.

The next stage of the analysis was to examine the self reported switching factors[6] gathered from the panel data in order to assign a name to the clusters. The proposed cluster names (drawn from these data and their logical position on the dimensions) are shown in figure 7.3.

Cross tabulations showing the number of reports of each category of switching factor (eg. price, variety, product features) are shown in appendix (VI).

There are some very interesting differences in the saliency of the alternative switching motivates between the groupings. However, the following comments may only be regarded as tentative because of the relatively small number of actual switches that took place in the data. For both the "Loyal" and "Habit" classification the out of stock situation was the most likely switching motivate. For the "Loyal" classification the only other major switching motivate was "product quality or features". For those classed as "switchers" there are many different reasons for switching the most salient being children's influence, price and variety. Not surprisingly, variety seeking is the main switching motivate of the "Variety seekers", children's influence was also high for this group.

It should be stressed that these differences are only mathematical, but there is an underlying consistency that suggests that the clusters do indeed have a meaningful interpretation. Hence this mapping approach could be used as a method of interpreting the relationship between commitment and behaviour.

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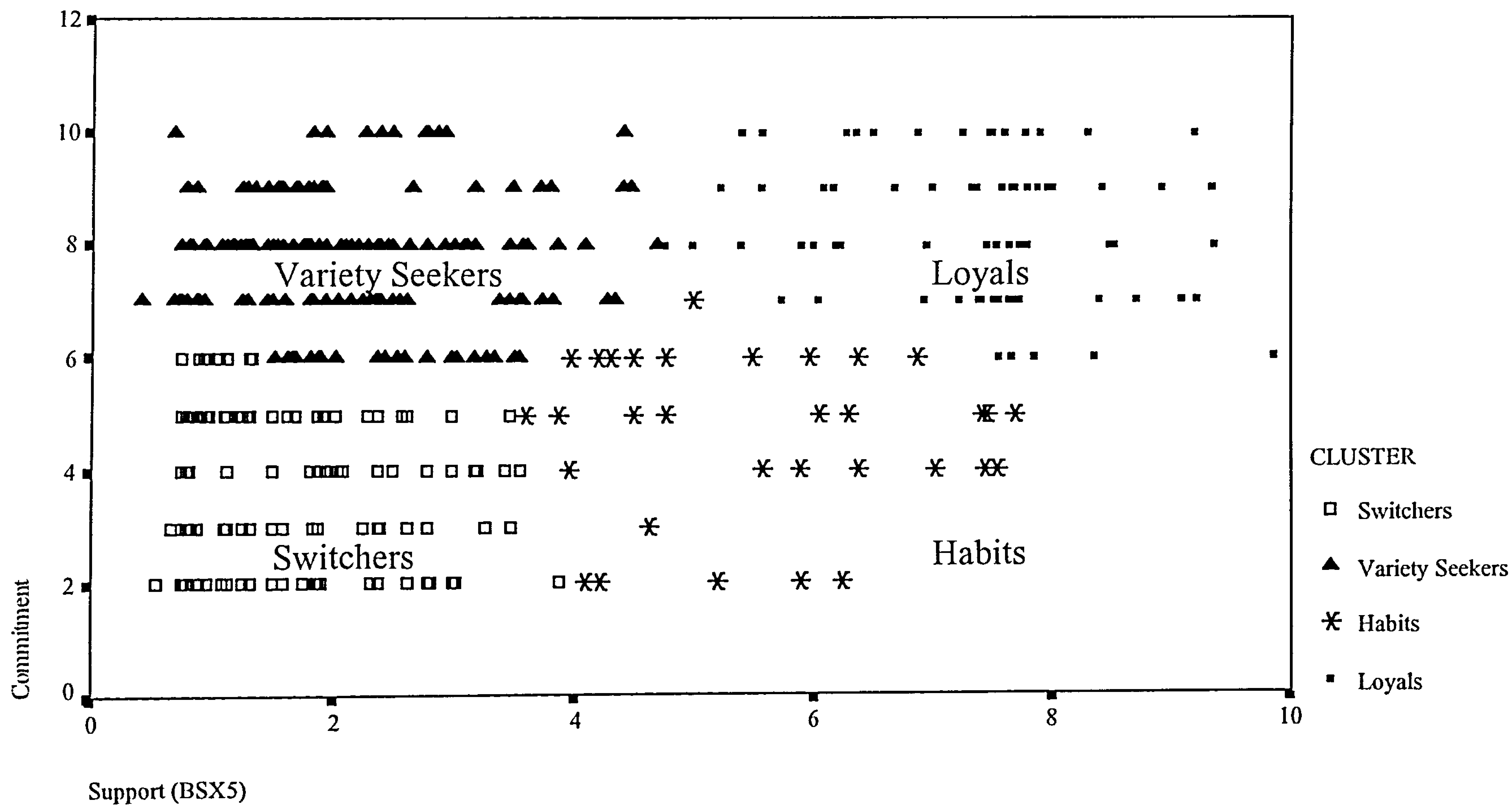
6 These were the respondents reported reasons for switching brand.

Figure 7.3 Commitment by Support by Cluster

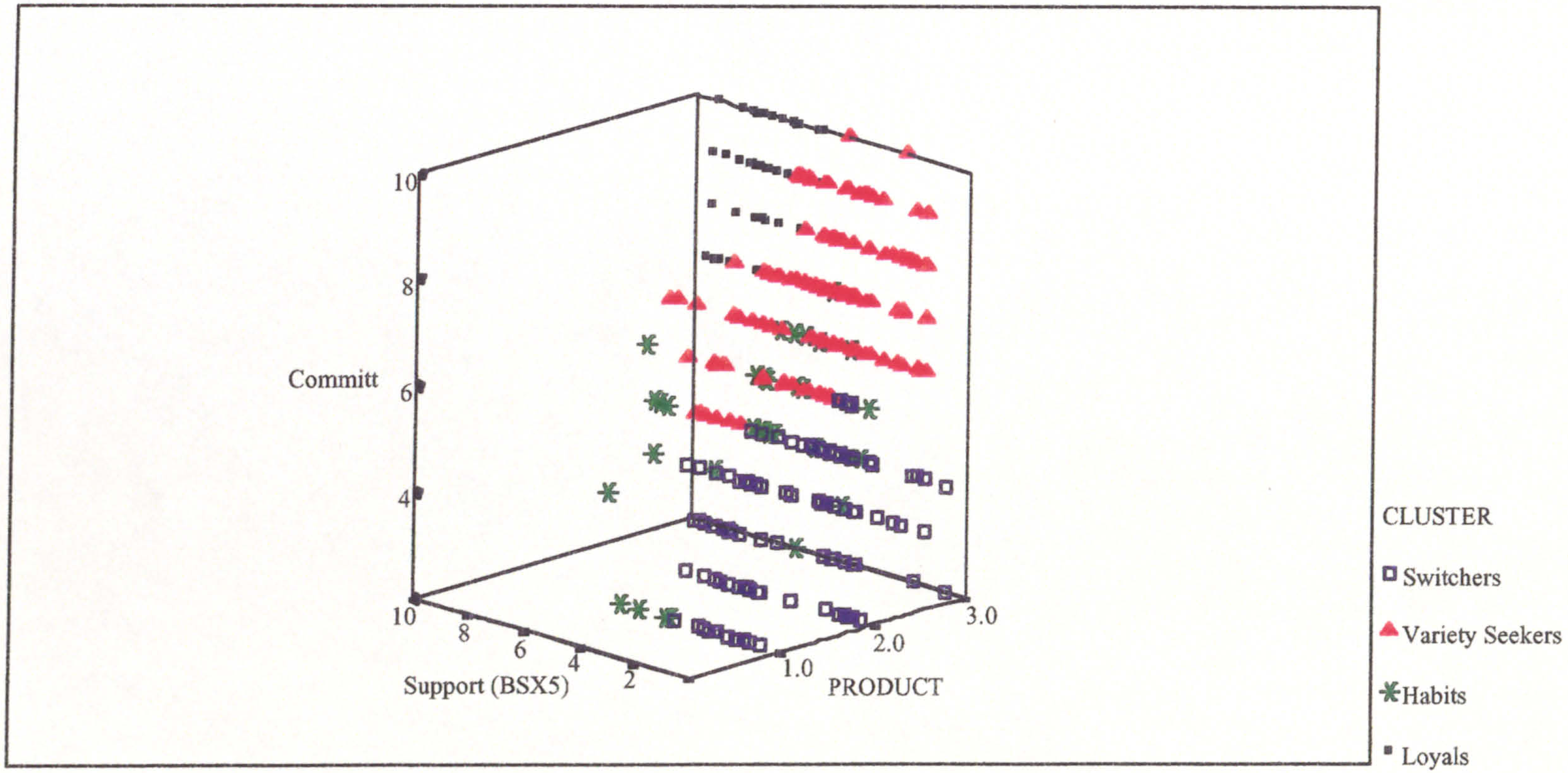
Markers Represent Cases



It may be possible to draw further support for these suppositions through the interpretation of figure 7.4. This shows the clusters again but with the added dimension of the products. It can be seen from this that the newspapers have the highest proportion of "Loyals", breakfast cereals the highest proportion of "variety seekers", kitchen towels have no "loyals" and consist mainly of "switchers" and "habits". Whilst from a research point of view it would be preferable to have all cluster adequately represented for all products, these positionings do seem to have face validity (they make sense!).

Figure 7.4 Commitment by Support by Cluster by Product

Markers Represent Cases



Product: 1= K. Towels 2=Cereal 3=Papers

Finally, the levels of product involvement and brand risk were tabulated for each of the clusters. These results are shown in table 7.6 below. The table shows the levels of product involvement and brand risk for the respondents in each of the four clusters. Again, a low score reflects a high level of involvement / risk since the original scales were coded with 1 highest and 7 lowest.

Table 7.10 Mean Product Involvement and Brand Risk by Cluster

	CLUSTER			
	Loyals	Habits	Variety Seekers	Switchers
Risk Mean	3.30	4.53	3.30	4.95
Product Involvement Mean	2.86	3.76	3.37	4.54

In summary these results suggest:-

LOYALS: High product involvement, Moderate risk

HABITS: Low product involvement, Low risk

VARIETY SEEKERS: Moderate product involvement, Moderate risk

SWITCHERS: Low product involvement, Low risk

An Analysis of Variance for these variables between the clusters is contained in appendix (VI). This shows that the differences between the clusters are predominantly significant. Since the higher repeat buyers (the loyals and the habits) represent a disproportionate amount of sales against the total number of customers, this type of classification provides a means of examining the motivations of the potentially most profitable customers and improving segmentation strategy. Further discussion of the application of these findings is contained in chapter 9.

8 INVOLVEMENT AND DECISION MAKING MODELS

8.1 Introduction

The purpose of this phase of the work was to determine the underlying model of information processing being used by consumers for decision making[1] in each of the product categories. On the basis that each of the product categories represents substantially different levels of involvement, hypothesis H10 can also be tested. That is, the influence of involvement on the level of information processing can be implied by estimating the Fishbein model[2] using comparative data from each of the product categories.

8.2 Structure and Underlying Theory

In the following sections, the relationships between Fishbein constructs are examined for each of the product categories in turn. In each case the Fishbein model was estimated using LISREL VII. Using LISREL not only helps determine the existence of causal relationships in the data but also allows estimation of all the relationships simultaneously which, in this instance, makes interpretation easier. In each case the model is formulated using all of the constructs elicited in the pilot phase of the work. The basic model has been extended to include a final actual behaviour measure. In this section of the analysis the behaviour measure was whether one of the respondents "favourite" brands was used in the 3 diary sheet periods following the issue of the Fishbein questionnaires. In principle, one would expect this measure to correlate highly with behavioural intention statement elicited as part of the questionnaire (ie.

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[1] Decisions about which brands to buy

[2] See chapter 3 for the rationale behind using the Fishbein model and a description of the principles of the technique.

intention to purchase regular brand of product in the following month".

It should be noted that the purpose here was not to challenge the specification details of the Fishbein model. Rather to see whether, in it's basic form, the model performed better at explaining and predicting behaviour among one product category than another.

Detailed discussion of the implications of the findings is reserved for chapter 9.

8.3 Fishbein Analysis for National Newspapers

The basic associations in the extended Fishbein model are often presented as simple correlations between the individual measures and behavioural intention (see East (1990)). The "fit" of the model is then estimated by calculating the coefficient of determination (R^2) between the attitude evaluations, subjective norm and behavioural intention measure. The weighting between attitude and subjective norm towards behavioural intention is then estimated using regression analysis. The analysis presented here begins with a simple ranking of correlations between the various components to provide a basic overview of the results. LISREL is then used to estimate the fit of the model and the weights of the two main components.

Table 8.1 below shows these correlations between the various attitude and subjective norm components and behavioural intention

Table 8.1 Correlations Between Model Components for Newspapers (Actual Significance in Parentheses)

COMPONENT	CORRELATION WITH BI
BE*1: Enjoy reading	.47 (.000)
BE3: Keep up with the news	.45 (.000)
NBMC**2: Partner	.44 (.000)
BE5: Be unbiased	.20 (.010)
NBMC1: Parents	.17 (.062)
BE2: Excuse to relax	.15 (.051)
BE4: Keep up with the sports	.14 (.074)

This implies that the most important determinants of behavioural intention are reading enjoyment, news content and partner's views. The full correlation matrix is shown in appendix (VII) - it is reassuring to see from this (see appendix) that these items also have the highest correspondence with the measure of actual behaviour.

The model for newspapers to be estimated by LISREL is shown in figure 8.1. Because of the limited sample size, the model was estimated using maximum likelihood estimation. The basic fit statistics are shown below in table 8.2, model coefficients with T-Stats are shown in table 8.3.

* Belief evaluation

** Normative belief & motivation to comply

Figure 8.1 - Extended Fishbein Model for National Newspapers

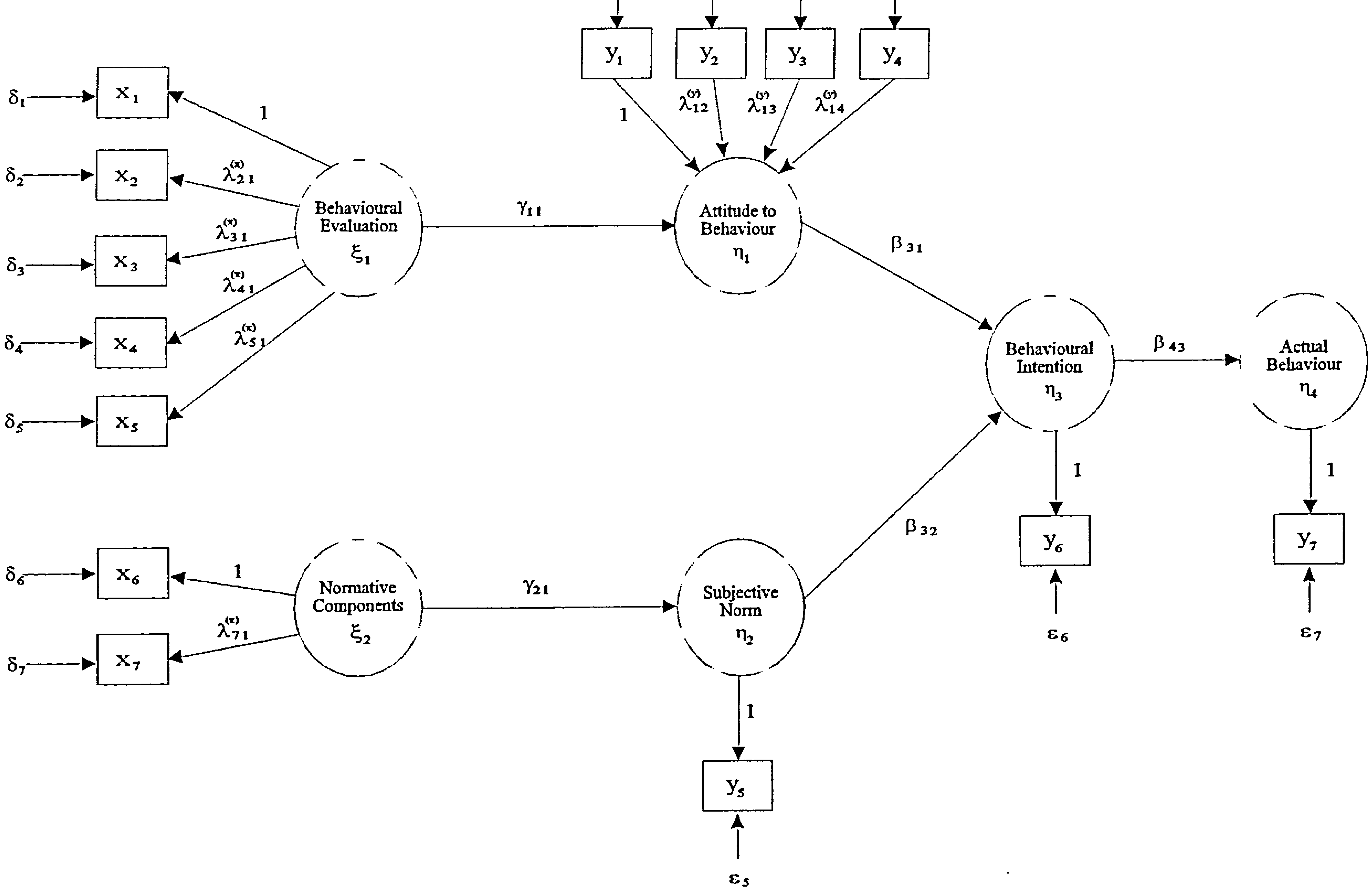


Table 8.2 LISREL Estimates for the Extended Fishbein Model for Newspapers - General Fit Statistics ML

CHI SQUARE (χ^2)	=	182.82	(75 d.f.)
Goodness of Fit Index	=	0.817	
Adjusted Goodness of fit index	=	0.744	
R^2 overall for Structural Equations	=	0.658	

Squared Multiple Correlations for structural equations, ie. variance explained in:

Attitude towards behaviour	0.573
Subjective Norm	0.214
Behavioural intention	0.486
Behaviour	0.303

Table 8.3 Coefficients and T-stats from the Fishbein Model for Newspapers (ML)

Beta (β) Coefficients (T Stats):

	Attitude to Behaviour	**Subjective Norm**	**Intention**
Intention	1.25 (6.1)	.362 (2.7)	
Behaviour			4.52 (6.0)

Gamma (γ) Coefficients (T-Stats):

	Sum of Behaviour evaluations	**Sum of normative Components**
Attitude to behaviour	.296 (4.8)	
Subjective norm		.150 (4.9)

These results suggest that the overall model fit for newspapers is highly satisfactory. All the components contribute to the fit of the model with the exception of the behavioural evaluation "keep up with the sports results".

8.4 Fishbein Analysis for Breakfast Cereals

The analysis shown below again begins with a simple ranking of correlations between the various components to provide a basic overview of the results. LISREL is then used to estimate the fit of the model and the weights of the two main components.

Table 8.4 below shows the correlation between the various attitude and subjective norm components and behavioural intention

Table 8.4 Correlations Between Model Components (Actual Significance in Parentheses)

COMPONENT	CORRELATION WITH BI
BE1: Tastes good	.21 (.005)
NBMC1: Children	.20 (.030)
NBMC2: Partner	.20 (.011)
BE3: Healthy food	.07 (.347)
BE2: Value for money	-.04 (.550)

These correlations are all rather low - belief evaluations numbers 2 and 3 are non-significant at the 95% level. This implies that the most important determinants of behavioural intention are taste, partners opinion and children's opinion. It would seem from this simple analysis that the determinants of the purchasers' behaviour are simply related to whether the user (the person who is going to eat it) likes it or not. This could be the purchaser, their partner or children. Therefore in this instance, it is debatable whether or not the "referents" are really behaving as referents in the model.

The full correlation matrix is shown in appendix (VII). Overall correspondence with actual behaviour is much lower in this instance but it is again true that the constructs corresponding most strongly with behavioural intention also correspond most strongly with behaviour.

The model for breakfast cereal to be estimated by LISREL is shown in figure 8.2. Again the model was estimated using maximum likelihood estimation, the basic fit statistics are shown below in table 8.5, model coefficients with T-Stats are shown in table 8.6.

Table 8.5 LISREL Estimates for the Extended Fishbein Model for Breakfast Cereals - General Fit Statistics

CHI SQUARE (χ^2)	=	75.77 (51 d.f.)
Goodness of Fit Index	=	0.903
Adjusted Goodness of fit index	=	0.851
R^2 overall for Structural Equations	=	0.778

Squared Multiple Correlations for structural equations, ie. variance explained in:

Attitude towards behaviour	0.289
Subjective Norm	0.628
Behavioural intention	0.124
Behaviour	0.014

Figure 8.2 - Extended Fishbein Model for Breakfast Cereals

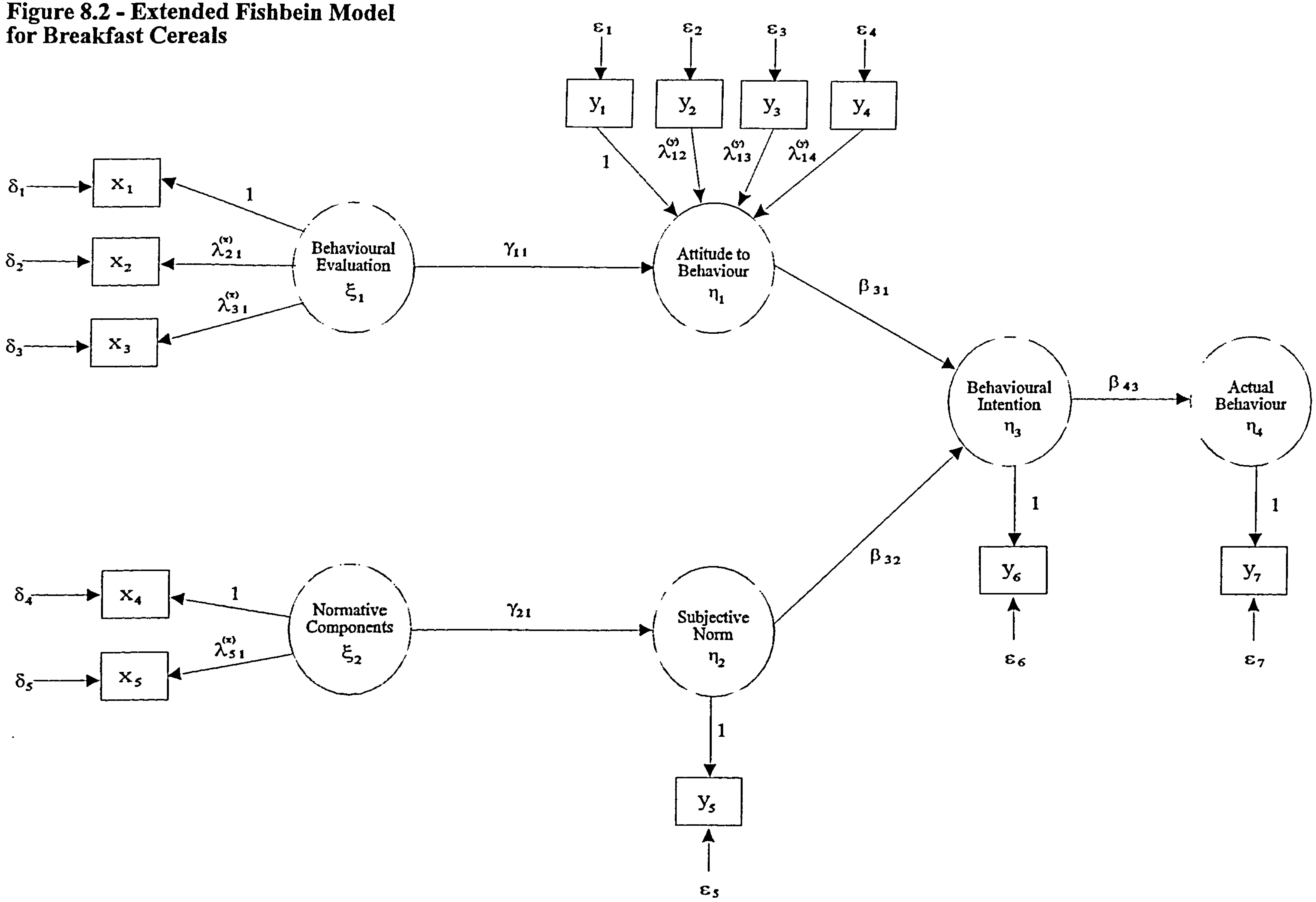


Table 8.6 Coefficients and T-stats from the Fishbein Model for Breakfast Cereals

Beta (β) Coefficients (T Stats):

	Attitude to Behaviour	Subjective Norm	Intention
Intention	.113 (.72)	.279 (3.04)	
Behaviour			.250 (1.10)

Gamma (γ) Coefficients (T Stats):

	Sum of Behaviour evaluations	Sum of normative Components
Attitude to behaviour	.238 (3.2)	
Subjective norm		.218 (5.161)

Whilst the model fit overall appears to be satisfactory, it can be seen from the coefficient details that attitude to behaviour is not contributing to the fit of the model. The reason for this may be connected with the observation above that partners and children are not behaving as true referents in the model. The model modification index (see appendix (VII)) for beta 1,2 (the path between the referents and attitude to behaviour) would produce a significant reduction in chi-square if it was set free[3]. This indicates that the model in it's specified form may not be the most appropriate for this product field.

In addition to the above there is no significant path between behavioural intention and behaviour in the model. Therefore overall the Extended Fishbein model does not

[3] This is equivalent to saying that there is a path between the so called salient referents and attitude to behaviour.

appear to be very useful to describe **the intention to purchase** regular brand for breakfast cereal, or indeed, **actual purchase behaviour.**

8.5 Fishbein Analysis for Kitchen Towels

The analysis presented here follows the same format used for the preceding two product categories.

Table 8.7 below shows the correlation between the various attitude and subjective norm components and behavioural intention

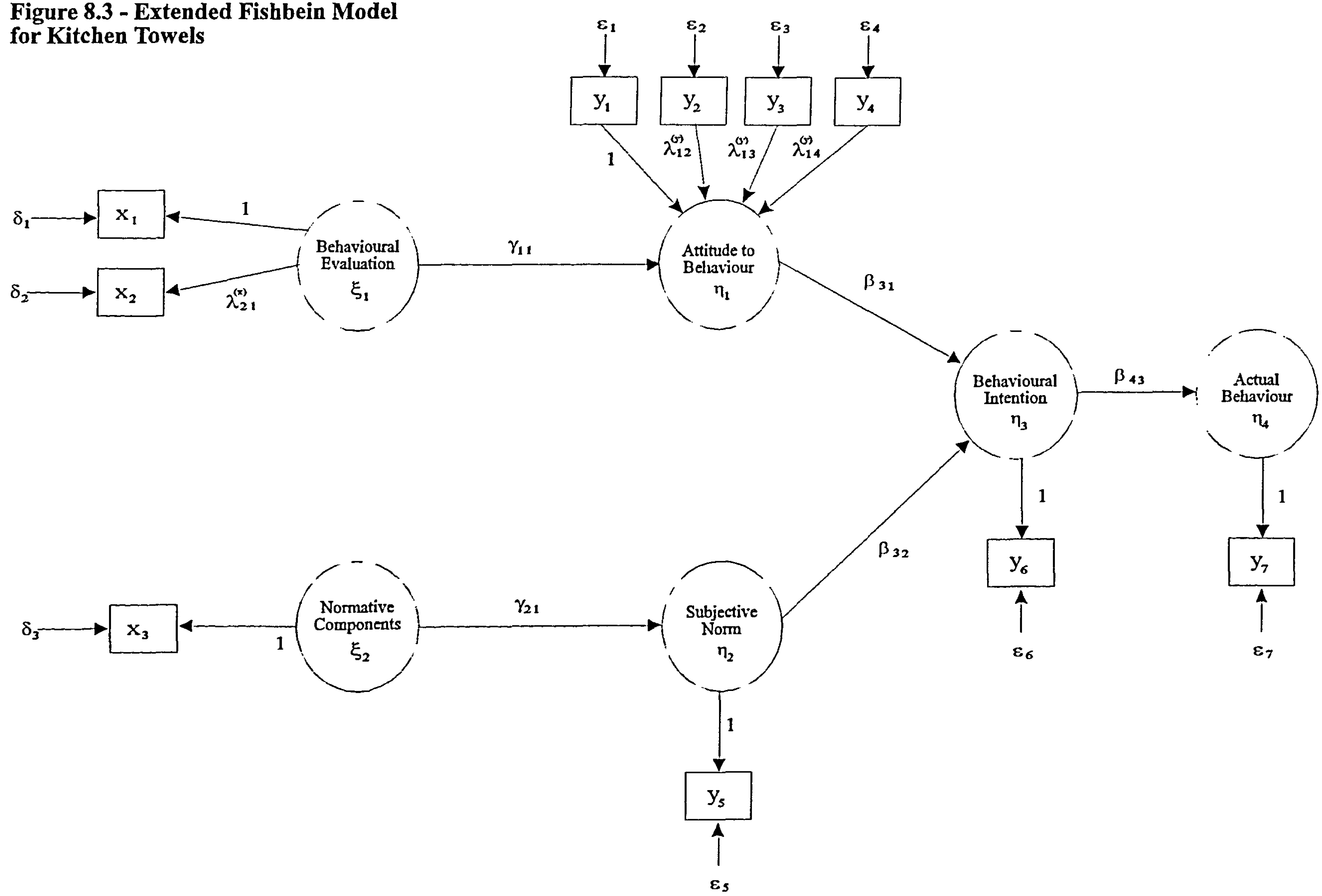
Table 8.7 Correlations Between Model Components (Actual Significance in Parentheses)

COMPONENT	CORRELATION WITH BI
BE2: In stock	.36 (.000)
NBMC1: Conservationists	.08 (.347)
BE1: Match Kitchen	-.01 (.886)

The only significant correlation here is between "in Stock" and behavioural intention. This may imply that purchasing in this category is highly routinised and that rational processing does not form a part of the decision strategy in this field. The full correlation matrix is shown in appendix (VII).

The model for kitchen towels to be estimated by LISREL is shown in figure 8.3. Again the model was estimated using maximum likelihood estimation, the basic fit statistics are

Figure 8.3 - Extended Fishbein Model for Kitchen Towels



shown below in table 8.8, model coefficients with T-Stats are shown in table 8.9.

Table 8.8 LISREL Estimates for the Extended Fishbein Model for Kitchen Towels - General Fit Statistics

CHI SQUARE (χ^2)	=	113.04	33 d.f.
Goodness of Fit Index	=	.874	
Adjusted Goodness of fit index	=	.791	
R^2 overall for Structural Equations	=	.826	

Squared Multiple Correlations for structural equations, ie. variance explained in:

Attitude towards behaviour	.815
Subjective Norm	.068
Behavioural intention	.108

Table 8.9 Coefficients and T-stats from the Fishbein Model for Kitchen Towels

Beta (β) Coefficients (T Stats):

	Attitude to Behaviour	Subjective Norm	Intention
Intention	.415 (1.9)	.461 (2.9)	
Behaviour			.212 (3.81)

Gamma (γ) Coefficients (T Stats):

	Sum of Behaviour evaluations	Sum of normative Components
Attitude to behaviour	.987 (2.0)	
Subjective norm		.027 (2.9)

The chi square statistic for the Fishbein model for kitchen towels is the worst of the three models. Attitudinal components are not significant predictors of attitude to behaviour at the 99% level and attitude to behaviour is not a significant predictor of behavioural intention. Interestingly, behavioural intention appears to be a good predictor of behaviour in this case. However, examination of the modification indices for this model (see appendix (VII)) reveals high modification indices for most of the fixed constructs ie. there are several options for re-specifying the model that would produce a significant reduction in the chi-square statistic. Overall, the diagnostic information seems to suggest that almost any alternative model specification would be preferable to the one that was used (the Extended Fishbein model).

9. IMPLICATIONS OF THE FINDINGS

9.1 Organisation

The purpose of this section to consider the implications of this research study in the broader marketing context. The findings are also discussed in relation to the contemporary literature on involvement and repeat purchasing.

Although it was not a specific objective of this research, the first section deals with the empirical measurement of involvement. The main thrust of the chapter is, however, the relationship between involvement and behaviour. This is then followed by a discussion of involvement and decision making. The final part of the chapter reviews the contribution of the study, it's limitations and identifies directions for further work.

9.2 Involvement Measurement, Sources and Forms of Involvement with Grocery Products

9.2.1 Implications of the Research for Involvement Theory

It was noted in section 2.2.6 that recent theorising on involvement has tended to converge and can be summarised in three or four alternative frameworks. These are the work of Kapferer and Laurent (1984), Mittal and Lee (1989), Ziachowsky (1985) & Vaughn (1980). With the exception of Ziachowsky's scale, these works all make the provision that involvement is a multidimensional construct. In fact, despite claiming to be uni-dimensional, Ziachowsky's scale also contains many items which refer to dimensions which have been named separately in the other scales.

Behind the outward differences in these approaches there is an emerging consistency in the general view of involvement. That is, there are three dimensions which are considered to be fundamental. These are risk, hedonism (inward and outwardly-directed), and utility. These have been expressed in as few as one dimension (Ziachowsky), two bipolar dimensions (affective-cognitive, involved-uninvolved from Vaughn), four dimensions (Mittal and Lee) and five (Kapferer and Laurent, see section 2.2.6). Mittal and Lee's Framework was chosen in this study because of its precise specification and coherent organisation. It was illustrated in sections 2.2.3 and 2.2.6 and also in Mittal and Lee, 1989, pp385 that this model of involvement is highly consistent with the original conceptual meanings of the constructs contained within it (ie. it displays conceptual unity). However, this work has shown that some of the dimensions of the involvement construct (the sources of involvement) appear not to be relevant to the lower involvement products studied here. However, before discussing the dimensionality of the involvement model in any depth there follows a brief review of the measurement principles.

Mittal and Lee present evidence in their 1989 paper that the measurement properties of their proposed model were satisfactory for the two product categories in their test. In this piece of research certain modifications were made to the test instrument to adapt it for use among grocery products.

In the pilot phase it was difficult to persuade respondents to complete the multiple item test instrument and it was clear that, with so many similar items, the quality of responses gained in a self-complete survey would be poor. It seems likely that this issue surfaced in this research for two reasons. Firstly, the respondents were consumers rather than students. Secondly, the product categories were intrinsically un-interesting. The decision was taken to adapt the test instrument rather than the methodology[1] because it is clear that for a model of involvement to be useful, it must be practical and straight forward to gather the requisite data. One possible alternative would have been to use one of the other frameworks for involvement. However, these all use relatively large numbers of items in their measurement scales. Hence, a strategy was developed to reduce the length of the test instrument whilst minimising the loss of reliability in it. The result of this was a questionnaire reduced in length from 24 to 14 items. This strategy also left the structure of the model unaffected (ie. sources or forms of involvement were not removed or combined).

The reduced-item test instrument performed very well in the subsequent reliability analysis. It should be noted that the reduction in the number of items does affect the ability to estimate causal models because the measurement part of the model cannot be fully identified. However, faced with the trade-off between obtaining meaningless results through respondent fatigue or making estimates of some of the error parameters, the latter strategy was the most appealing.

Overall, it is recommended that the reduced version of the questionnaire be used in future studies in instances where interest in the product fields is likely to be low generally.

The next phase in the research was to test Mittal and Lee's involvement model among these lower involvement products.

[1] ie. it was decided to keep using consumers rather than "give up" and use students

Using the data across the three product fields it was clearly the case that only brand risk and product involvement were significant antecedents of brand decision involvement. For the aggregate data and across the individual product fields, the remaining sources failed to contribute to the fit of the model.

The sources of product involvement seem less clear. In the aggregate data model, product sign was just significant at the 99% level, but this construct was not significant in any of the disaggregate models. Product utility was never found to be a significant contributor at any time.

It should be noted that because the levels of collinearity (or empirical under-identification in LISREL terminology) are high in the model, it was only by using the aggregate data set (with its greater sample size and variance) that the legitimacy of the underlying model could be firmly established. The analysis of the data at the product field level is only reliable when the simplified model was estimated. However, these simplified model runs at the disaggregate level were able to support the earlier findings from models estimated using the aggregate data.

Mittal and Lee (1989) identify salient sources of involvement that are very different to those identified through this research. For VCRs, only product utility was significant at the 99% level as a source of product involvement. They also found that product involvement, brand hedonic and brand risk were significant sources of brand decision involvement. For jeans, all three sources of product involvement were significant and, with the exception of brand risk, the brand sources were found to be significant antecedents to brand decision involvement.

Given that the products used in Mittal and Lee's work were intrinsically more involving, the involvement source constructs were probably more distinct than for the grocery products analysed here. For this reason, it is reasonable to presume that their model did not suffer from estimation difficulties caused by collinearity of the constructs. However, in their paper, Mittal and Lee do not report the correlations between the parameter estimates for the model. In the absence of this information it is impossible to determine for certain whether the parameter estimates are reliable or whether the source constructs they identified as significant are the most important for the product fields. Whilst this is a weakness of their paper, the diagnostic information they do report is consistent with their conclusions, and on balance, their findings can be accepted as robust.

Due to the combined efforts of the current research and Mittal and Lee's earlier work the proposed model of involvement has been tested across a total of five very different product fields. These different product fields have each shown different sources of involvement to be important. It is encouraging to see that the sources which show the strongest relationship within each product field seem to be intuitively plausible. For example, product and brand sign are reported important for Jeans (Mittal and Lee, 1989), whilst product utility is shown to be important for VCRs. Here, brand risk and product involvement were found to be the only major contributors to brand involvement for the three lower involvement product categories.

Since these differences do seem intuitively plausible for the categories tested so far, it seems reasonable to accept the model as a general framework for understanding involvement. The corollary of this is that it would seem unreasonable to propose a simplified version of the model based on the test of any one product field. As demonstrated in this research, it is possible to simplify the model once the significance of the individual components has been established should an improved model fit be necessary. However, from a theoretical point of view, the full model should be retained as the basic involvement framework.

This finding of diverse involvement profiles between the various product categories tested should not be surprising in the light of Kapferer and Laurent's findings (1984). However, it does emphasise the point that the sources of involvement are not necessary conditions for involvement to exist, but they may, individually, be sufficient conditions. For example, Mittal and Lee show product utility to be the sole source of product involvement for VCRs. Here, product hedonic is shown to be the sole source of product involvement for the three frequently purchased products tested. For this reason the way in which the model is specified may be misleading. The specification of a causal model in a path diagram such as figure 7.1, implies that the presence of permanent causal routes (see Joreskog and Sorbom, 1988,1989,; Bagozzi, 1980). Therefore the full model should really be regarded as a conceptual model rather than a precisely specified empirical one. The importance of precision in the specification of truly causal models is developed in Hayduk, 1987 pp.233-234.

9.2.2 Implications of the Research for Marketing Practice

To generalise from the results of this research, it would seem that the level of involvement for individual grocery brands are most likely to be influenced by the levels of perceived risk associated with making a poor brand choice. It could also be influenced by the levels of product involvement, but it is difficult see how this variable could be manipulated to the advantage of a specific brand.

The idea of risk reduction as the primary motivating variable for involvement provides one possible route to switch consumers into a particular brand. That is, the wider deployment of product trial rather than other forms of promotional activity such as advertising, may provide the necessary reassurance to consumers (assuming that parity or superior performance can be guaranteed).

The opposite tack of the above is in the manipulation of risk in order to retain customers of a brand (ie. by increasing the risks of moving out of the brand). This strategy would be much more challenging and may be, in any case, less effective because of the weak relationship between involvement and "loyalty" (see below).

The above comments can only be considered to apply in the general case, ie. by assuming that all grocery products follow the pattern determined for the three products investigated here. However, it has previously been noted that the full involvement framework should be investigated for each new product field first because it is possible that other antecedents may be relevant to a particular product field. It is also possible that they may have relevance at a specific brand level. If this were the case, then marketing strategy could be modified to take account of the source profile of the brand. The framework established may also have a role to play in the design of positioning strategy for the brand. However, these comments can only really be considered as conjecture because the samples available in the current study are not large enough to undertake analysis of this sort at the brand level.

9.3 Involvement, Commitment and Behaviour

9.3.1 The Implications for Marketing Theory

A central aim has been to gather empirical evidence on the relationship between involvement and repeat purchase behaviour. It was argued in chapter 2 that, because of the complexity of both these constructs, this is not a trivial task. However, the recent more robust frameworks for studying involvement and the evidence that there may be a causal relationship between involvement and behaviour, made the study a tempting one to consider. The one major obstacle that seemed to remain was finding a satisfactory operationalisation of repeat buying behaviour.

The literature suggests that deterministic relationships are more likely to be identified with brand loyalty than with repeat purchase per se (see Jacoby & Chestnut, 1978). For this reason, a conceptual view of the brand loyalty construct was needed. The conceptual definition of loyalty first identified by Jacoby and Olson (1970), was used in this research (see chapter 2). This identifies that, critically, there are two dimensions to the construct: the psychological (commitment) and the behavioural (repeat purchase). However, no method was found to fully operationalise this precise definition in a way that could be correctly specified as part of a causal model. To clarify why this is, consider trying to specify the construct of "brand loyalty" as part of a causal model. What items should be used to measure it? Neither a behavioural index or an indicator of commitment can be used because they are not direct measures of the construct.

Using both as indicators of the underlying construct in a factor model (ie. treating them as multiple indicators of the construct) would be inappropriate because they have no shared content; they are measuring different things. The only way to do it would be to develop questions which measure the construct of brand loyalty itself directly, eg. "I am loyal to my brand". This was considered to be infeasible given the obvious complexity of the construct. Consequently, the causal model was actually tested with these two components specified separately (ie. with commitment treated as an antecedent to behaviour).

This study has shown that explained variance in the relationship with behaviour is limited to around 16% across the three categories (20% when confined to newspapers). The other two product categories individually showed no relationship between brand commitment and brand support.

It was noted in Section 7.3.1 the aggregate data was used so that potentially significant relationships were not overlooked (elimination of type II errors Keppell (1973)). The presence of a relationship in the aggregate data implies that there may, in fact, be a relationship between commitment and behaviour for kitchen towels and breakfast cereals that was not detected with the available sample at the disaggregate level. However, even at the disaggregate level the samples were all greater than 100. Therefore one can conclude that any such undetected relationship must be quite small and is probably substantively unimportant.

Jacoby & Chestnut (1978) note that there are potentially a plethora of different causes of repeat purchase behaviour and that researchers could go on isolating cause after cause ad infinitum. However, it seems logical that if consumers express commitment to a particular set of brands that they would make some effort to actually use them and that this would be isolated in the data. Hence, it seems likely that the relationship that has been found in the aggregate data is valid, but that there are other overriding factors surrounding the product and in the purchasing environment that change behaviour more than involvement.

In chapter 7 further analysis of the constructs of brand commitment and brand support was carried out which helps illuminate the reasons why the linear relationship is so weak. The cluster analysis and plot of respondents may be a more useful way of looking at the two constructs. Using the four cluster classification, it is possible to provide some understanding of both the "linear" relationship and the clusters that fall outside of this relationship. This approach has value because the marketing approach to dealing with these four clusters could be radically different (the arguments for this are presented below).

Whatever the outcomes for marketing strategy it seems that, the concept of the relationship between involvement and repeat purchase is something of a red herring in buying behaviour. Although there may be a relationship between involvement and certain definitions of brand **loyalty** any relationship between involvement and rates of repeat purchase has little meaning. This is because there are groups of consumers with low commitment (and low involvement) and high levels of brand support - ie. the "Habits" on the cluster grid reflecting 7% of the sample. Similarly, there is a cluster with high commitment (and therefore high involvement) but apparently low support for a limited set of brands because they constantly switch brands to seek variety, "variety seekers" (39% of the sample).

In contrast to this weak relationship with behaviour the involvement-commitment relationship is very strong. In each of the models, around 80% of the variance in brand commitment is explained by the single construct of brand decision involvement. This may explain the earlier confusion and use of the terms involvement and commitment interchangeably by researchers (eg Traylor, 1981). Considering for a moment the original meaning of the concepts of brand involvement and brand commitment. The former means getting involved with the brand purchase decision, the latter means taking up a position on which brand to buy. The distance between these two steps for grocery purchasing is very small and the concepts can easily be confused. However, to combine these concepts would be counter logical because it would imply that the marketer has only to get the consumer to be involved with brand purchasing to make her "committed" to his brand. This is clearly ridiculous because the consumer is unlikely to be committed to all the brands in the product field! Hence it would seem that getting consumers involved with making the purchase decision is an important prerequisite to obtaining commitment but it is not in itself sufficient.

9.3.2 The Implications for Marketing Practice

One of the benefits of viewing repeat purchase behaviour and brand commitment along their individual dimensions is that it shifts the focus from a mechanistic view of trying to change consumer loyalty at an aggregate level, to one based on segmentation. In other words, the four quadrants of the commitment / support grid can be used as segmentation variables so marketing strategy can be tuned into the requirements of each. The position of the majority of consumers for a product or brand on the grid could provide a valuable contribution to understanding consumer behaviour in the market. It may also be possible to target any remaining customers in the other segments separately. The success of the latter approach is, of course, dependent on finding secondary variables (eg. demographic or lifestyle variables) which are related to the clusters to use for targeting marketing effort (eg. advertising). Unfortunately, identifying such variables demands very large samples and is generally beyond the reach of non-proprietary research budgets. However, providing these target clusters can be reached there are opportunities to deploy different marketing strategies for each segment.

For example, those in the "switchers" category might be reached through price promotions, couponing, EPOS couponing etc to encourage loyalty to a particular brand, or indeed to switch to a competitor by the same devices. Those in the variety seekers category could be retained by developing an extensive brand variety strategy either through product features or perhaps some other variable such as packaging size and type. An example of where this has already happened is in the UK laundry detergent market. There are many different variants, both powder and liquid, as well as packaging variations of the same brand which gives consumers the illusion of a wide choice within the brand.

Strategies for increasing involvement may still be relevant when trying to convert "switchers" into "loyal" consumers. However weak the relationship between involvement and loyalty, the fact is that this relatively small number of loyal customers account for a disproportionately large volume of sales (for example, here the 47% of newspaper purchasers in the "loyal" cluster account for 60% of the sales). Following on from the earlier discussion about the sources of involvement, it would seem that an appropriate strategy might be to increase the risks associated with moving out of the brand in some way. An overt communications strategy is the most likely method of doing this.

For products or clusters where habitual purchasing is predominant, distribution may be the critical variable. For these consumers, who are not motivated by variety and who do not seem to undertake extensive cognitive decision making (see below), the out-of-stock situation may be the only mechanism which causes a change of brand. When faced with their normal choice being out of stock these consumers may try a different brand and, consistent with their habitual behaviour patterns, subsequently repurchase it. When this occurs the original brand has lost a consumer who would otherwise have repurchased even in the absence of any marketing effort. In this scenario, low or erratic distribution would be disastrous for a brand.

9.4 Involvement and the Decision Making Model

9.4.1 Implications for Marketing Theory

The analysis presented in chapter 8 seems to support the hypothesis that the Extended Fishbein Model performs better for more involving product categories (H10).

If one accepts the premise that the three product fields represented have differing levels of involvement, then the Fishbein model appears to fit the higher involvement product categories better. Extending the logic of this further, this implies that cognitive processes predominantly underlie more involving purchasing decisions; for uninvolved decisions some other underlying model may be more appropriate. This graduation of cognitive to behaviouristic is implicit in almost all aspects of the analysis carried out. Firstly, the number of salient beliefs themselves was fewer for the less-involving product categories which implies that fewer factors are considered in the decision making process. Secondly, correlation between the individual components and behavioural intention was stronger for newspapers than the other two categories. Thirdly, the overall fit of the model for newspapers was better than for breakfast cereals, which was better than for kitchen towels.

However, there are alternative explanations to those outlined above since it is possible that some other function surrounding the product categories, rather than involvement, is responsible for the differences in model performance. For example, differences in the purchasing environment (the source of purchase) or recency of purchase may have influenced the modelling results. The only way to eliminate these other possible causative explanations would be to include many more product fields in the study.

The results are, however, broadly in line with the findings of Beatty and Kahle (1988). These authors show tentative evidence that the theory of reasoned action fitted better when individuals were more highly committed to the brand purchase (a soft drink). In addition, they also show that an alternative framework, the low involvement hierarchy model (Ray (1973)), was more appropriate than the Fishbein model to the low commitment consumer group in their study.

Collectively, this evidence supports the widely-held, theoretical notion that decision making becomes more extensive as involvement with the product increases. For example, Engel et al 1986 have stated that decision making for high involvement purchases will be characterised by extensive rational information processing. In contrast, these authors also suggest that low involvement decision making is characterised by limited and routinized behaviour. In addition to the Fishbein analysis, the patterns of the brand buying for the three product categories studied here seem also to support this notion. For example, kitchen towel purchasing is characteristically a habitual event. In contrast, a large portion of newspaper purchasers fall into the "loyal" category (47%) which means that they display commitment to brand(s) within the product in addition to high levels of support. This would seem to suggest a continual cognitive review of their brand purchase decision.

9.4.2 Implications for Marketing Practice

There are two main aspects of this analysis that could be of significance to marketing practice. Firstly, the findings generally support the long-held theoretical position that low involvement purchasing is characterised by minimal cognitive effort. This leads to the maxim that managers of low involvement brands must remember: that they are likely to be far more concerned with their brands than their consumers. It also supports the use of repetitive (& low information content) advertising, below the line promotion in the form of product trial couponing etc. All of these methods are widely used in dealing with "lower involvement" products. The second point to note is that, even among the very frequent-purchase, everyday products there are consumer segments within these categories that display higher levels of involvement. Such consumers may need more tangible reasons to remain loyal to a brand and could possibly be reached by more informative advertising.

9.5 A Review of the Research Design: Strengths, Weakness and Contribution

9.5.1 Introduction

This section reviews the limitations of the research design, implementation and analysis. Firstly, the limitations surrounding the use of the frameworks that were adopted from earlier research are reviewed. Then the specific limitations of the research design are discussed under the headings of sample, the research method and the analytical approach.

9.5.2 The Theoretical Underpinnings

The development of involvement theory is extensively documented in chapter two. However, it has been noted in that discussion that there are several competing approaches to involvement theory. Mittal and Lee's involvement framework was selected on the basis that it was theoretically robust and readily testable empirically. However, the practical performance of the model was only moderate in their research. The sources of involvement are, strictly speaking, mis-specified in the model because they are not always significant predictors of the forms of involvement. The second limitation of their approach is in the measurement of so many concepts that are similar. This research has shown that it was not practical to use the full test instrument among "real" consumers, simply because there were too many instances of "asking the same question twice". Secondly, the number of such similar concepts makes the estimation of the model less reliable (because of the collinearity problems described extensively above). It would perhaps be more realistic to combine at least some of the more similar dimensions as Vaughn (1980) or Ziachowsky, (1985) have done.

Despite the limitations outlined above, the Mittal and Lee model of involvement does still provide a broad framework to study the concept and its effects. Even among "low" involvement grocery products, the inclusion of involvement sources in the model did yield some useful information.

Despite only limited success in operationalising the conceptual definition of brand loyalty, the stance taken has proved fruitful in most respects. By maintaining the dimensions of commitment and brand support as separate entities, it has proved possible to classify consumers into segments based on their "loyalty behaviour". However, the absence of a tautological single-scale of "brand loyalty" is an omission because the causal model, strictly speaking, needs the variable of "brand loyalty" to be separately specified as the final dependent variable. This limitation means that the model cannot be used to predict theoretical levels of "brand loyalty". However, it has already been noted that the retention of the two individual dimensions (commitment and behaviour) may be a more useful approach for practical use of the information.

9.5.3 Sample

One considerable strength of this research is that the sample has been relatively large (for exploratory research) and was based on a random sample of genuine householders in the UK. Despite this, the sample was still considered to be too small to undertake effective analysis at the brand level. Thus, it was not possible to determine to what extent involvement levels vary within an individual brand or the impact that this would have on behaviour for a single brand. In addition, it was not feasible to identify secondary segmenting variables to use in targeting the four cluster classifications (see section 9.3.2 above).

The main limitation of the sample was with the number of product fields that were recorded. Since data was only collected for three product fields it has only been possible to explore implications, rather than draw conclusions, from the analysis of the fit of the Fishbein models. Firm conclusions cannot be made from this data because the **product fields** behave as the data points in this instance.

9.5.4 The Analysis Approach

LISREL provides many advantages in the analysis of survey data of the type collected in this study (see Chapter 7). Using the technique it is theoretically possible to imply causal relations among the variables (See Cuttence, 1985). However, the approach also has many limitations.

One of the biggest arguments surrounds the use of the diagnostic information that the program provides to distinguish effectively the most appropriate model(s) (see Hayduk, 1987). It has already been noted that the primary fit statistic, the Chi-square test, has no widely-agreed normative value that can be said to represent a "satisfactory model". Consistent with Hayduk (1987), the method used here to deal with this problem was to use theory to derive the most likely model and to use the data simply to support or reject the model. Thus, the technique is at it's most effective when attempting to show that the proposed model represents reality reasonably well rather than adopting hypotheses that take the stance that the model is either right or wrong.

If ordinary correlation and regression analysis had been used in this work, it would have been quite possible to conclude that every relationship was valid since all the concepts are so similar. The use of LISREL helped to establish which of the relationships had the most structural validity.

The final limitation of the method concerns model identification. There are two forms of model identification necessary namely structural and empirical. Since the proposed model was principally recursive, the former is of less concern. However, the need for structural identification of the model would have limited the inclusion of non-recursive relationships had they been relevant to the involvement-brand support model. That is, feedback loops could not be tested because, with the current data set, the model would not have been identified if such relationships had been included. Thus, this research was not able to exhaustively test all the possible alternatives to the proposed model. One solution to this problem would be to identify and specify further contributors to brand commitment and brand support (eg. advertising, or consumer characteristics like age or class) and thereby improve the identification of the model. The second issue surrounding empirical identification was a much more serious problem. This problem, which is similar to the concept of multicollinearity in regression analysis, arises when several of the input variables are correlated. In fact LISREL, is more tolerant to these correlations between the variables than is the case in simple regression analysis. However, some of the estimates of the parameters in the involvement-brand support model presented here are correlated (see section 7.3.4) which reduces their reliability to some extent.

9.6 A Review of the Main Conclusions, the Contribution of the Research and Directions for Further Research

This research has been successful in supporting the following basic tenets for purchasing within the grocery sector in the UK:

1 That differing levels of involvement do exist between frequently-purchased product categories.

2 That there is an underlying model of involvement that suggests that risk and inherent product involvement are the most important causes of brand decision involvement for grocery products.

3 That brand decision involvement is strongly related to brand commitment but that brand commitment itself is only weakly related to brand support for grocery products.

4 That distinct segments exist along the axis of brand support and brand commitment which may provide a valuable framework for targeting customer groups through segmentation practices.

5 The findings from the Fishbein analysis are consistent with the notion that low involvement decision making is supported by limited problem solving and more involved purchases are characterised by more extensive problem solving.

In order to make these findings actionable for marketing practitioners, four main further stages of work are needed. Firstly, further product fields need to be studied in order to establish whether the framework is valid more generally among grocery products (this is needed for both the involvement support model and the analysis of decision making styles). Secondly, a measure is needed that can be collected as a substitute for the brand support index derived from the panel data since panel data is very time intensive and expensive to collect. This would allow the matrix approach to be used more readily for segmentation analysis. Thirdly, further work needs to be carried out to establish the cut-off points of the segments. That is, normative criteria need to be developed in order to establish the scores required for classification into each of the segments. Currently, the clusters are established as maximally different for the three products under study.

Finally, a study is needed to establish the model at the brand level. That is to determine the variation within individual brands and between brands in a product category.

In addition to these indicators of direction for further work there are also other opportunities to help validate the study using this data set and respondent base. For example, data on advertising recall levels and price was also collected, this could be cross analysed with the segmentation clusters. The influence of advertising on the consumers in each segment may provide further clues to help understand the underlying decision making strategy used for brand selection in each cluster. Similarly, the influence of price could help to validate the proposed behaviour styles of the consumers in each cluster (eg. are "switchers" more likely to change brands on the basis of price than consumers in the other clusters?).

Some qualitative validation of the involvement levels and buying habits of the group members would be most valuable.

For instance, individuals from each of the clusters could be re-contacted and, using a depth-interviewing technique a detailed picture of their psychology and buying behaviour could be established. By tracing individuals with a particular involvement score, their behavioural and general selection procedures between brands could be observed by an independent qualitative researcher. This research could be subsequently combined with detailed aspects of the quantitative data to provide a much richer understanding of motivations, behaviours and brand preferences.

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Appendix I
- Mittal and Lee's Involvement Questionnaire

Involvement Test Instrument
Reproduced from Mittal and Lee (1989)

Table A.1
Measures for the forms and sources of involvement.

A. *Product involvement*
   1. I have a strong interest in ________. (JA)
   2. ________ are very important to me. (JMR)
   3. For me, ________ do not matter. [a] (JMR)

B. *Brand decision involvement*
   1. I would choose my ________ very carefully. (ML)
   2. Deciding which ________ to buy would be an important decision for me. (ML)
   3. Which ________ I buy matters to me a lot. (ML)

C. *Product sign-value*
   1. Using ________ helps me express my personality. (ML)
   2. I like the way I see myself when I am using ________. (ML)
   3. Knowing whether or not someone uses ________ tells a lot about that person. (New)

D. *Brand sign-value*
   1. You can tell a lot about a person from the brand of ________ he/she buys. (JMR)
   2. Judging someone by the brand of ________ that he/she buys would be a mistake. [a] (ML)
   3. If I know the brand of ________ that someone uses, I could pretty much guess what kind of a person he/she might be. (New)

E. *Product hedonic value*
   1. I would give myself great pleasure by purchasing a ________. (JA)
   2. ________ is a fun product. (New)
   3. To buy ________ would be like giving myself a joyful present or treat. (JA)

F. *Brand hedonic value*
   1. I believe different brands of ________ would give different amounts of pleasure. (New)
   2 All brands of ________ could not be equally enjoyable. (New)
   3 No matter which brand of ________ you buy, you get the same pleasure. [a] (New)

G. *Product utility*
   1. Using ________ would be beneficial. (New)
   2. ________ are basically a useful thing. (New)
   3. ________ make everyday life easier. (New)

H. *Brand risk*
   1. When you buy ________, it is not a big deal if you buy a wrong brand by mistake. [a] (JRM/M)
   2. It is very annoying to buy a ________ which isn't right. (JA/M)
   3. A bad buy of ________ could bring you grief. (ML)

[a] Reverse-scored.

Note: Parenthetical entries reflect item source: *JMR* and *JA* for Laurent and Kapferer (1985a and 1985b, respectively); 'ML' for Mittal and Lee (1988), and 'New' for items developed by the present authors. A '/M' shows modification of the original item. All items used 7-point strongly disagree/strongly agree scales. Within instrument placement of items was *not* systematic.

Appendix II

- Pilot Survey Material and Analysis

- Questionnaire
- Involvement Item Correlation Matrix
- Multi-trait Multi-method Matrix
- Reduced Item Involvement Questionnaire
- ANOVA Of Involvement Sources and Forms for Product Fields
- Test Re-test Correlation Matrix
- ANOVA of Test Re-test Scores and Tests
- Test Re-test Questionnaire
- Focus Group Material

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CONSUMER PRODUCTS IN THE 1990'S

PILOT SURVEY

Thank you for agreeing to take part in this survey.

This is a pilot survey which will determine the design of a much larger survey to be carried out later this year. For this reason the survey is slightly longer than usual and some of the questions quite similar. However, since this is a pilot survey your own comments about the layout and questions will be particularly useful. There is a space at the end of the questionnaire where we would welcome your advice!

The questionnaire is divided into three sections. The first section requests general background information about yourself. The second section requests information about how often you use the products under study. The last section asks for detailed information about how you feel about the products and about purchasing them.

The answers that you give are entirely confidential and will not be linked to your name in any way. You will not be placed on any mailing lists.

Your help is greatly appreciated.

The completed questionnaire should be returned, in the envelope provided, to:-

David Walker,
Phd Research Student,
Cranfield School of Management,
Cranfield Institude of Technology,
Cranfield
Bedford.
MK43 0AL

SECTION A

INFORMATION ABOUT YOURSELF

1 Name: ______________________

2. Address: ______________________

____

______________________ Post code: ________

3 Which of these best describes your occupation:-

- ☐ Professional/technical
- ☐ Managerial
- ☐ Skilled Worker
- ☐ Clerical/sales
- ☐ Farmer
- ☐ Student
- ☐ Homemaker
- ☐ Retired
- ☐ Unemployed
- ☐ Other (please specify) ________

4. What is your sex?

- ☐ Female
- ☐ Male

5 What is your marital status:-

- ☐ Single
- ☐ Divorced/Widowed/Separated
- ☐ Married
- ☐ Other

6. How many children do you have under 18 living in your home?

- ☐ 0
- ☐ 2
- ☐ 4 or more
- ☐ 1
- ☐ 3

7. What is your age:

- ☐ Under 25
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or over

8. What type of dwelling do you live in?

- ☐ Flat
- ☐ Maisonette
- ☐ 1 bed House
- ☐ 2 bed House
- ☐ 3 bed house
- ☐ 4 or more bed house

9. Do you own or rent your home?

- ☐ Own
- ☐ Rent

10. What is your total annual household income?

- ☐ Up to £10,000
- ☐ £10,000-19,999
- ☐ £20,000-29,999
- ☐ £30,000 or over

11. What proportion of the household shopping are you responsible for:-

- ☐ None of it
- ☐ Less than half
- ☐ About half
- ☐ Most of it
- ☐ All of it

SECTION B

BUYING THE PRODUCTS

1. On Average how often do you purhase the following products:-

	Never	Less than once a month	Once a month	Once a fortnight	Once a week	Daily
Breakfast Cereal	☐	☐	☐	☐	☐	☐
Paper Kitchen Towel	☐	☐	☐	☐	☐	☐
Laundry Detergent	☐	☐	☐	☐	☐	☐
Tinned Tomatoes	☐	☐	☐	☐	☐	☐
Toothpaste	☐	☐	☐	☐	☐	☐
Daily Newspapers	☐	☐	☐	☐	☐	☐
Cigarettes	☐	☐	☐	☐	☐	☐

2. On average how often do you shop for food and household products?

Less than once a month	Once a month	Once a fortnight	Once a week	Daily
☐	☐	☐	☐	☐

3. Please tick the box that best describes your brand buying behaviour for each of the following product groups:-

	I always buy the same brand	I always buy one of the two brands which I most prefer	I genrally buy the same brand but sometimes try a different one	I genrally buy the same brand but often try a different one	I generally buy a different brand each time I shop	I don't buy the product.
Breakfast Cereal	☐	☐	☐	☐	☐	☐
Paper Kitchen Towel	☐	☐	☐	☐	☐	☐
Laundry Detergent	☐	☐	☐	☐	☐	☐
Tinned Tomatoes	☐	☐	☐	☐	☐	☐
Toothpaste	☐	☐	☐	☐	☐	☐

SECTION C

ATTITUDES ABOUT THE PRODUCTS

In this section of the questionnaire you are asked how strongly you agree or disagree with statements of attitude about the products being surveyed.

There are 24 questions of this type. Some of the questions may seem similar, but they are all about slightly different aspects of how you feel about the products.

Please read the questions carefully. Some are about the brand of product that you buy, some are more general and simply about using the product type.

Please answer all the questions even if you don't actually use the products.

EXAMPLE

All the questions in this section are laid out in the following way, tick the appropriate part of the scale as shown:-

' The following products are very important to me:-

Spray polish	Strongly Agree	1 ✓	2	3	4	5	6	7	Strongly Disagree
Canned Soup	Strongly Agree	1	2	3	4	✓ 5	6	7	Strongly Disagree

SECTION C – ATTITUDES ABOUT THE PRODUCTS

1 I have a strong interest in:-

Breakfast Cereal	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Paper Kitchen Towel	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Laundry Detergent	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Tinned Tomatoes	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Toothpaste	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Daily Newspapers	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Cigarettes	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

2 The following products are very important to me:-

Breakfast Cereal	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Paper Kitchen Towel	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Laundry Detergent	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Tinned Tomatoes	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Toothpaste	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Daily Newspapers	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree
Cigarettes	Strongly Agree	1	2	3	4	5	6	7	Strongly Disagree

3. For me the following products do not matter:-

Breakfast Cereal	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Paper Kitchen Towel	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Laundry Detergent	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Tinned Tomatoes	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Toothpaste	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Daily Newspapers	Strongly Agree	7	6	5	4	3	2	1	Strongly Disagree
Ci[illegible]									

4. I would choose the following products very carefully:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

5. Deciding which brand of the following products to buy would be an important decision:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

6. Which brand of the following I buy matters to me a lot:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

7. Using the following products helps me to express my personality:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

8. I like the way I see myself when I'm using the following products:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

9. Knowing whether or not a person uses the following products tells a lot about that person:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree				Strongly Disagree		
Paper Kitchen Towel	Strongly Agree				Strongly Disagree		
Laundry Detergent	Strongly Agree				Strongly Disagree		
Tinned Tomatoes	Strongly Agree				Strongly Disagree		
Toothpaste	Strongly Agree				Strongly Disagree		
Daily Newspapers	Strongly Agree				Strongly Disagree		
Cigarettes	Strongly Agree				Strongly Disagree		

10 You can tell a lot about a person from which brand of the following she/he uses:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

11. Judging someone by the brand they use of the following would be a mistake:-

	7	6	5	4	3	2	1
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

12. If I know the brand of the following products that somebody uses, I could pretty much guess what kind of a person she/he is:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

13 I would give myself great pleasure by purchasing:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

14 The following are fun products:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

15. To buy the following would be like giving myself a present or treat:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

16. I believe that different brands of the following would give different amounts of pleasure:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

17. All brands of the following could not be equally enjoyable:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

18. No matter what brand of the following you buy, you get the same pleasure:-

	7	6	5	4	3	2	1
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

19. Using the following products would be beneficial:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

20. The following products are basically useful:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

21. The following products make everyday life easier:-

	1	2	3	4	5	6	7
Breakfast Cereal	Strongly Agree						Strongly Disagree
Paper Kitchen Towel	Strongly Agree						Strongly Disagree
Laundry Detergent	Strongly Agree						Strongly Disagree
Tinned Tomatoes	Strongly Agree						Strongly Disagree
Toothpaste	Strongly Agree						Strongly Disagree
Daily Newspapers	Strongly Agree						Strongly Disagree
Cigarettes	Strongly Agree						Strongly Disagree

22. When you buy the following products, it is not a big deal if you buy the wrong <u>brand</u> by mistake:-

	Strongly Agree							Strongly Disagree
		7	6	5	4	3	2	1
Breakfast Cereal								
Paper Kitchen Towel								
Laundry Detergent								
Tinned Tomatoes								
Toothpaste								
Daily Newspapers								
Cigarettes								

23. It is very annoying to buy any of the following which aren't right:-

	Strongly Agree							Strongly Disagree
		1	2	3	4	5	6	7
Breakfast Cereal								
Paper Kitchen Towel								
Laundry Detergent								
Tinned Tomatoes								
Toothpaste								
Daily Newspapers								
Cigarettes								

24. A bad buy of the following could bring you trouble:-

	Strongly Agree							Strongly Disagree
		1	2	3	4	5	6	7
Breakfast Cereal								
Paper Kitchen Towel								
Laundry Detergent								
Tinned Tomatoes								
Toothpaste								
Daily Newspapers								
Cigarettes								

YOUR COMMENTS ABOUT THE QUESTIONNAIRE

Appendix II - PILOT DATA ANALYSIS - CORRELATION MATRIX OF THE 24 ITEM DATA

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1                              DOS - P R E L I S  1.12
0                                         BY
0                          KARL G JORESKOG AND DAG SORBOM


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0THE FOLLOWING PRELIS CONTROL LINES HAVE BEEN READ :

 PILOT DATA ANALYSIS - CORRELATION MATRIX OF THE 24 ITEM DATA;
 DA NI=38 NO=0
 RA FI=B:\PILOT2.DAT
 CO 1
 OR 2-38
 OU MA=KM
1
0TOTAL SAMPLE SIZE =  168
0CONVERSION OF ORIGINAL VALUES TO CATEGORIES
0                                      CATEGORY
0VARIABLE         1        2       3        4        5        6        7
+
```

VARIABLE	1	2	3	4	5	6	7
VAR 2	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 3	1.00	2.00	3.00	4.00	5.00		
VAR 4	1.00	2.00					
VAR 5	1.00	2.00	3.00				
VAR 6	1.00	2.00	3.00				
VAR 7	1.00	2.00	3.00	4.00			
VAR 8	1.00	2.00	3.00	4.00	5.00		
VAR 9	1.00	2.00					
VAR 10	1.00	2.00	3.00	4.00			
VAR 11	2.00	4.00	5.00	6.00			
VAR 12	1.00	2.00	3.00	4.00	5.00	6.00	
VAR 13	3.00	4.00	5.00				
VAR 14	1.00	2.00	3.00	4.00	5.00	6.00	
VAR 15	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 16	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 17	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 18	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 19	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 20	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 21	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 22	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 23	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 24	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 25	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 26	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 27	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 28	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 29	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 30	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 31	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 32	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 33	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 34	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 35	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 36	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 37	1.00	2.00	3.00	4.00	5.00	6.00	7.00
VAR 38	1.00	2.00	3.00	4.00	5.00	6.00	7.00

Appendix II - PILOT DATA ANALYSIS - CORRELATION MATRIX OF THE 24 ITEM DATA (cont.)

0UNIVARIATE FREQUENCY DISTRIBUTIONS FOR ORDINAL VARIABLES

0VARIABLE	CATEGORY 1	2	3	4	5	6	7
VAR 2	24	24	24	24	24	24	24
VAR 3	63	56	35	7	7		
VAR 4	126	42					
VAR 5	98	7	63				
VAR 6	126	21	21				
VAR 7	49	42	49	28			
VAR 8	35	7	35	70	21		
VAR 9	84	84					
VAR 10	42	50	41	35			
VAR 11	14	42	98	14			
VAR 12	34	32	43	23	26	10	
VAR 13	21	133	14				
VAR 14	51	24	33	10	18	32	
VAR 15	19	25	22	25	12	25	40
VAR 16	18	15	32	18	13	13	59
VAR 17	19	33	23	21	16	14	42
VAR 18	28	31	22	22	9	13	43
VAR 19	23	15	27	21	17	12	53
VAR 20	19	28	25	19	15	6	56
VAR 21	8	15	11	37	20	15	62
VAR 22	6	8	23	17	18	9	87
VAR 23	11	10	20	30	17	16	64
VAR 24	12	20	24	30	22	13	47
VAR 25	4	9	19	35	8	25	68
VAR 26	6	11	28	31	21	21	50
VAR 27	6	8	12	14	12	28	88
VAR 28	4	6	8	7	9	32	102
VAR 29	5	1	5	4	6	13	134
VAR 30	13	14	24	28	10	24	55
VAR 31	24	32	31	25	17	12	27
VAR 32	27	25	26	35	20	19	16
VAR 33	37	31	19	30	8	9	34
VAR 34	40	39	30	17	11	7	24
VAR 35	44	25	25	29	8	13	24
VAR 36	17	11	19	27	20	28	46
VAR 37	23	21	25	31	14	16	38
VAR 38	15	4	21	35	18	20	55

0NORMAL SCORES FOR ORDINAL VARIABLES

0VARIABLE	CATEGORY 1	2	3	4	5	6	7
VAR 2	-1.580	-.800	-.368	.000	.368	.800	1.580
VAR 3	-1.011	.108	.912	1.542	2.138		
VAR 4	-.424	1.271					
VAR 5	-.669	.264	1.011				
VAR 6	-.424	.895	1.647				
VAR 7	-1.177	-.214	.504	1.499			
VAR 8	-1.377	-.742	-.379	.458	1.647		
VAR 9	-.798	.798					
VAR 10	-1.271	-.263	.448	1.377			
VAR 11	-1.840	-.841	.360	1.840			
VAR 12	-1.393	-.538	.053	.579	1.119	1.989	
VAR 13	-1.647	.066	1.840				
VAR 14	-1.151	-.321	.113	.448	.697	1.427	
VAR 15	-1.696	-.899	-.450	-.083	.195	.492	1.300
VAR 16	-1.722	-1.035	-.556	-.150	.082	.280	1.056
VAR 17	-1.696	-.818	-.313	.022	.304	.550	1.271
VAR 18	-1.499	-.656	-.211	.120	.358	.541	1.257
VAR 19	-1.601	-.914	-.510	-.128	.158	.383	1.127
VAR 20	-1.696	-.868	-.377	-.037	.219	.382	1.091
VAR 21	-2.083	-1.344	-.958	-.497	-.045	.219	1.022
VAR 22	-2.200	-1.570	-1.044	-.613	-.320	-.112	.770
VAR 23	-1.947	-1.316	-.906	-.435	-.067	.180	1.000
VAR 24	-1.909	-1.137	-.643	-.197	.196	.473	1.203
VAR 25	-2.356	-1.659	-1.121	-.548	-.195	.053	.957
VAR 26	-2.200	-1.504	-.914	-.362	.037	.360	1.164
VAR 27	-2.200	-1.570	-1.186	-.858	-.602	-.274	.760
VAR 28	-2.356	-1.744	-1.389	-1.138	-.934	-.538	.633
VAR 29	-2.271	-1.843	-1.645	-1.425	-1.244	-.983	.353
VAR 30	-1.873	-1.189	-.739	-.290	.000	.258	1.103

VAR 31	-1.580	-.724	-.189	.235	.577	.857	1.518
VAR 32	-1.518	-.729	-.289	.175	.623	1.039	1.778
VAR 33	-1.345	-.494	-.097	.274	.584	.743	1.393
VAR 34	-1.300	-.380	.151	.525	.783	.981	1.580
VAR 35	-1.243	-.426	-.038	.378	.694	.913	1.580
VAR 36	-1.749	-1.112	-.766	-.361	.000	.369	1.216
VAR 37	-1.601	-.851	-.426	.008	.351	.603	1.330
VAR 38	-1.808	-1.276	-.942	-.412	.000	.289	1.103

0UNIVARIATE SUMMARY STATISTICS FOR CONTINUOUS VARIABLES

0VARIABLE	MEAN	ST. DEV.	SKEWNESS	KURTOSIS	MINIMUM	FREQ.	MAXIMUM	FREQ.
VAR 1	12.500	6.943	.000	-1.182	1.000	7	24.000	7

1PILOT DATA ANALYSIS - CORRELATION MATRIX OF THE 24 ITEM DATA;

0 ESTIMATED CORRELATION MATRIX

0	VAR 1	VAR 2	VAR 3	VAR 4	VAR 5	VAR 6
VAR 1	1.000					
VAR 2	.000	1.000				
VAR 3	.122	.000	1.000			
VAR 4	.000	.000	.035	1.000		
VAR 5	.010	.000	.008	-.368	1.000	
VAR 6	-.015	.000	.002	-.323	.703	1.000
VAR 7	-.256	.000	-.298	-.081	.375	.247
VAR 8	-.059	.000	-.229	-.370	.566	.499
VAR 9	.024	.000	.161	.385	-.387	-.559
VAR 10	.151	.004	-.105	-.339	.371	.440
VAR 11	.001	.000	-.250	.132	.011	-.025
VAR 12	.025	-.153	.042	-.116	.131	.104
VAR 13	-.157	.000	.401	.272	.070	.047
VAR 14	-.040	.113	-.058	-.013	-.114	-.100
VAR 15	-.055	.114	.148	.061	-.062	-.035
VAR 16	-.092	.111	.101	.210	-.062	-.066
VAR 17	-.025	.174	.105	.214	-.143	-.030
VAR 18	-.035	.129	.125	.265	-.152	.008
VAR 19	-.015	.038	.111	.209	-.118	-.049
VAR 20	-.038	.159	.060	.308	-.282	-.097
VAR 21	-.037	-.031	-.104	.383	.024	-.004
VAR 22	-.035	.029	-.115	.265	-.018	-.088
VAR 23	-.101	.029	-.119	.273	.046	.016
VAR 24	-.035	-.159	-.235	.164	-.166	.080
VAR 25	-.164	-.261	-.087	.224	-.079	-.109
VAR 26	-.013	-.231	-.317	.175	-.110	.000
VAR 27	-.021	-.058	-.165	.227	.047	-.039
VAR 28	-.115	.067	-.135	.206	-.055	-.081
VAR 29	.034	.061	-.097	.069	-.140	.017
VAR 30	-.089	-.104	.003	.054	.062	.049
VAR 31	.044	-.069	-.053	.231	.040	.047
VAR 32	.011	-.193	.150	.189	.020	.101
VAR 33	.047	.187	.095	.064	-.012	.113
VAR 34	.139	.265	.079	.006	-.049	.106
VAR 35	.057	.299	.066	.115	-.001	.051
VAR 36	-.064	-.170	.039	-.012	.107	.244
VAR 37	.048	.008	.065	.089	.088	.155
VAR 38	-.078	-.109	.032	.041	.143	.249

0 ESTIMATED CORRELATION MATRIX

0	VAR 7	VAR 8	VAR 9	VAR 10	VAR 11	VAR 12
VAR 7	1.000					
VAR 8	.514	1.000				
VAR 9	-.441	-.207	1.000			
VAR 10	.432	.621	-.466	1.000		
VAR 11	.117	-.192	-.314	-.265	1.000	
VAR 12	.051	.155	-.041	.057	.004	1.000
VAR 13	.049	-.109	.277	-.108	.120	.032
VAR 14	-.039	-.094	.007	-.069	-.021	-.584
VAR 15	-.019	-.006	-.039	.022	.059	-.512
VAR 16	-.078	.010	.061	-.007	.040	-.557
VAR 17	-.041	-.015	.087	-.009	.048	-.572
VAR 18	-.050	-.007	.132	-.055	-.004	-.533
VAR 19	-.107	.026	.165	.002	-.107	-.484
VAR 20	-.072	-.090	.150	-.103	.066	-.444
VAR 21	.039	-.030	.020	-.028	.296	-.324
VAR 22	.030	-.025	.027	-.002	.318	-.426
VAR 23	.133	.036	-.062	-.064	.363	-.320

VAR 24	.014	.056	-.114	-.005	.162	-.146
VAR 25	-.024	.058	.042	-.007	.205	-.022
VAR 26	.121	.102	-.083	.054	.167	-.034
VAR 27	-.111	.012	.049	-.061	.334	-.144
VAR 28	-.060	.044	-.004	.030	.228	-.287
VAR 29	-.228	.004	.123	.025	.110	-.160
VAR 30	-.215	-.034	-.013	-.012	.169	-.273
VAR 31	.097	.067	.034	.126	.058	-.253
VAR 32	-.073	.013	.125	.061	-.165	-.100
VAR 33	-.033	.000	-.101	.018	.095	-.490
VAR 34	-.108	.021	-.060	.108	.032	-.451
VAR 35	-.014	-.080	-.067	-.058	.194	-.436
VAR 36	-.114	.211	.067	.027	-.232	-.275
VAR 37	-.221	.117	.127	.040	-.132	-.303
VAR 38	-.183	.095	.048	.099	-.196	-.078

0 ESTIMATED CORRELATION MATRIX
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	VAR 13	VAR 14	VAR 15	VAR 16	VAR 17	VAR 18
VAR 13	1.000					
VAR 14	-.162	1.000				
VAR 15	.219	.509	1.000			
VAR 16	.189	.456	.814	1.000		
VAR 17	.269	.477	.840	.847	1.000	
VAR 18	.192	.456	.695	.747	.801	1.000
VAR 19	.172	.463	.693	.778	.760	.867
VAR 20	.293	.433	.678	.678	.745	.826
VAR 21	.290	.154	.457	.553	.525	.457
VAR 22	.141	.253	.546	.621	.569	.560
VAR 23	.168	.189	.487	.514	.532	.546
VAR 24	-.097	.001	.177	.187	.239	.293
VAR 25	.030	-.113	.123	.158	.118	.150
VAR 26	-.208	-.103	.090	.087	.123	.186
VAR 27	.144	-.011	.244	.322	.250	.178
VAR 28	-.009	.154	.353	.414	.367	.292
VAR 29	.089	.055	.305	.304	.346	.243
VAR 30	.160	.179	.437	.532	.463	.367
VAR 31	.174	.217	.356	.378	.467	.438
VAR 32	.233	-.036	.233	.273	.323	.376
VAR 33	.034	.393	.547	.522	.642	.622
VAR 34	.044	.423	.519	.490	.618	.542
VAR 35	.083	.439	.451	.429	.528	.509
VAR 36	-.066	.173	.293	.339	.309	.299
VAR 37	.110	.222	.385	.536	.478	.534
VAR 38	-.014	.036	.198	.310	.225	.290

0 ESTIMATED CORRELATION MATRIX
0
+

	VAR 19	VAR 20	VAR 21	VAR 22	VAR 23	VAR 24
VAR 19	1.000					
VAR 20	.799	1.000				
VAR 21	.467	.529	1.000			
VAR 22	.546	.599	.724	1.000		
VAR 23	.504	.584	.596	.768	1.000	
VAR 24	.286	.386	.369	.467	.507	1.000
VAR 25	.186	.198	.360	.494	.428	.627
VAR 26	.184	.234	.378	.493	.472	.790
VAR 27	.229	.230	.518	.570	.514	.404
VAR 28	.304	.320	.416	.616	.491	.373
VAR 29	.311	.304	.308	.455	.291	.305
VAR 30	.437	.360	.443	.492	.451	.353
VAR 31	.464	.418	.320	.353	.405	.211
VAR 32	.410	.272	.279	.193	.150	.228
VAR 33	.538	.542	.364	.362	.445	.151
VAR 34	.518	.546	.309	.321	.367	.095
VAR 35	.411	.399	.267	.231	.275	-.034
VAR 36	.399	.190	.174	.243	.144	.226
VAR 37	.609	.452	.384	.398	.335	.229
VAR 38	.332	.243	.209	.284	.207	.273

0 ESTIMATED CORRELATION MATRIX
0
+

	VAR 25	VAR 26	VAR 27	VAR 28	VAR 29	VAR 30
VAR 25	1.000					
VAR 26	.645	1.000				
VAR 27	.440	.428	1.000			
VAR 28	.420	.443	.748	1.000		
VAR 29	.161	.290	.511	.623	1.000	

Appendix II - PILOT DATA ANALYSIS - CORRELATION MATRIX OF THE 24 ITEM DATA (cont.)

VAR 30	.365	.254	.468	.456	.444	1.000
VAR 31	.112	.266	.253	.274	.362	.545
VAR 32	.166	.239	.158	.178	.296	.509
VAR 33	-.055	.068	.049	.168	.167	.339
VAR 34	-.068	-.002	.016	.182	.243	.229
VAR 35	-.163	-.118	-.041	.041	.016	.166
VAR 36	.207	.236	.085	.136	.138	.311
VAR 37	.212	.164	.198	.231	.182	.483
VAR 38	.275	.216	.166	.136	.095	.304

0 ESTIMATED CORRELATION MATRIX

0

+

	VAR 31	VAR 32	VAR 33	VAR 34	VAR 35	VAR 36
VAR 31	1.000					
VAR 32	.558	1.000				
VAR 33	.411	.238	1.000			
VAR 34	.267	.079	.755	1.000		
VAR 35	.238	.118	.695	.723	1.000	
VAR 36	.199	.368	.190	.194	.105	1.000
VAR 37	.340	.404	.388	.351	.272	.565
VAR 38	.136	.150	.181	.115	.068	.360

0 ESTIMATED CORRELATION MATRIX

0

+

	VAR 37	VAR 38
VAR 37	1.000	
VAR 38	.478	1.000

0 THE PROBLEM USED 61976 BYTES (= 23.6% OF AVAILABLE WORKSPACE)

Note: Involvement items begin at variable 15 ie. variable 15 corresponds to questionnaire section C question 1 variable 16 with question 2 etc.

Appendix II - Multi-trait Multi-method Matrix for Pilot Data (Transformed Correlation Matrix)

	PI A	BDI A	PSV A	BSV A	PHV A	BHV A	PU A	BR A	PI B	BDI B	PSV B	BSV B	PHV B	BHV B	PU B	BR B	PI C	BDI C	PSV C	BSV C	PHV C	BHV C	PU C	BR C
PI A	1.00																							
BDI A	0.70	1.00																						
PSV A	0.46	0.46	1.00																					
BSV A	0.18	0.29	0.37	1.00																				
PHV A	0.24	0.18	0.52	0.40	1.00																			
BHV A	0.44	0.37	0.44	0.35	0.47	1.00																		
PU A	0.55	0.62	0.36	0.15	0.05	0.34	1.00																	
BR A	0.29	0.30	0.17	0.23	0.09	0.31	0.19	1.00																
PI B	0.81	0.75	0.55	0.18	0.53	0.53	0.52	0.34	1.00															
BDI B	0.69	0.87	0.47	0.29	0.44	0.44	0.54	0.40	0.78	1.00														
PSV B	0.55	0.56	0.72	0.47	0.49	0.49	0.36	0.24	0.62	0.55	1.00													
BSV B	0.12	0.15	0.36	0.63	0.37	0.37	-0.06	0.21	0.16	0.19	0.49	1.00												
PHV B	0.35	0.29	0.42	0.37	0.46	0.46	0.17	0.14	0.41	0.30	0.62	0.42	1.00											
BHV B	0.36	0.44	0.32	0.21	0.55	0.55	0.41	0.20	0.38	0.46	0.35	0.11	0.27	1.00										
PU B	0.52	0.54	0.31	0.10	0.23	0.23	0.56	0.10	0.49	0.52	0.32	-0.09	0.18	0.27	1.00									
BR B	0.39	0.53	0.38	0.23	0.48	0.48	0.34	0.57	0.54	0.61	0.40	0.21	0.23	0.34	0.35	1.00								
PI C	0.84	0.80	0.33	0.24	0.46	0.46	0.64	0.31	0.85	0.76	0.57	0.12	0.37	0.47	0.62	0.48	1.00							
BDI C	0.68	0.83	0.53	0.39	0.36	0.36	0.54	0.19	0.68	0.80	0.60	0.20	0.32	0.42	0.55	0.45	0.75	1.00						
PSV C	0.49	0.55	0.60	0.51	0.45	0.45	0.45	0.14	0.51	0.50	0.77	0.43	0.49	0.41	0.37	0.34	0.53	0.58	1.00					
BSV C	0.09	0.19	0.38	0.79	0.25	0.25	0.07	0.24	0.09	0.18	0.49	0.65	0.44	0.27	0.00	0.16	0.12	0.23	0.47	1.00				
PHV C	0.31	0.24	0.31	0.31	0.44	0.44	0.17	0.14	0.30	0.31	0.46	0.16	0.62	0.36	0.24	0.18	0.35	0.30	0.29	0.29	1.00			
BHV C	0.23	0.38	0.28	0.23	0.51	0.51	0.24	0.37	0.27	0.41	0.19	0.17	0.18	0.56	0.08	0.40	0.32	0.27	0.15	0.24	0.30	1.00		
PU C	0.45	0.51	0.27	-0.03	0.17	0.17	0.70	0.11	0.43	0.41	0.23	-0.16	0.04	0.24	0.72	0.27	0.53	0.40	0.28	-0.12	0.02	0.12	1.00	
BR C	0.20	0.29	0.21	0.27	0.30	0.30	0.15	0.36	0.31	0.33	0.28	0.28	0.14	0.14	0.12	0.48	0.23	0.24	0.21	0.22	0.10	0.14	0.07	1.00

Abbreviations:

PI = Product Involvement
PSV = Product Sign Value
PHV = Product Hedonic Value
PU = Product Utility

BDI = Brand Decision Involvement
BSV = Brand Sign Value
BHV = Brand Hedonic Value
BR = Brand Risk

A = First Item
B = Second Item
C = Third Item

Appendix II - Reduced Item Involvement Test Instrument

1. *Product Involvement*
   I have a strong interest in ...
2. *Brand Decision Involvement*
   I would choose my ... very carefully
3. *Product Sign*
   3.1 Using ... helps me express my personality
   3.2 Knowing whether or not someone uses ... tells a lot about that person
4. *Product Hedonic*
   4.1 I would give myself great pleasure by purchasing ...
   4.2 To buy ... would be like giving myself a present or treat
5. *Product utility*
   Using ... would be beneficial
6. *Brand Sign*
   You can tell a lot about a person from the brand of ... s/he buys
7. *Brand hedonic*
   7.1 I believe different brands of ... would give different amounts of pleasure
   7.2 All brands of ... would not be equally enjoyable
   7.3 No matter what brand of ... you buy, you get the same pleasure
8. *Brand Risk*
   8.1 When you buy ..., it is not a big deal if you buy the wrong brand by mistake
   8.2 It is very annoying to buy a ... which is not right
   8.3 A bad buy of ... could bring you trouble

All items use a 7 point agree / disagree scale

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AVAILABLE

Variable print quality

Appendix II - ANOVA of Involvement Sources and Forms for Product Fields

```
555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555
5555555555555555555555555  Digital Equipment Corporation - VAX/VMS Version V5.5  5555555555555555
555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555555


Genstat 5  Release 2.1  (Vax/VMS5)                              4-JUN-1992 19:11:15.97
Copyright 1990, Lawes Agricultural Trust (Rothamsted Experimental Station)

    job 'daves analysis'
    unit [168]
    open 'pilotsp.dat';ch=2
    fact [levels=7;labels=!t(cereal,towel,detergent,toms, \
    toothpaste,papers,fags);valu=(1...7)24] products
    pointer [values=dmat[15...38]] doublecrap
    read [ch=2;format=!(-14,24)] dmat[15...38]

  Identifier    Minimum      Mean   Maximum     Values   Missing
    dmat[15]      1.000     4.315     7.000        168         0
    dmat[16]      1.000     4.595     7.000        168         0
    dmat[17]      1.000     4.143     7.000        168         0
    dmat[18]      1.000     3.976     7.000        168         0
    dmat[19]      1.000     4.440     7.000        168         0
    dmat[20]      1.000     4.179     7.000        168         0
    dmat[21]      1.000     5.375     7.000        168         0
    dmat[22]      1.000     5.256     7.000        168         0
    dmat[23]      1.000     4.464     7.000        168         0
    dmat[24]      1.000     4.494     7.000        168         0
    dmat[25]      1.000     5.304     7.000        168         0
    dmat[26]      1.000     4.845     7.000        168         0
    dmat[27]      1.000     5.857     7.000        168         0     Skew
    dmat[28]      1.000     6.060     7.000        168         0     Skew
    dmat[29]      1.000     6.429     7.000        168         0     Skew
    dmat[30]      1.000     4.786     7.000        168         0
    dmat[31]      1.000     3.732     7.000        168         0
    dmat[32]      1.000     3.695     7.000        168         0
    dmat[33]      1.000     3.619     7.000        168         0
    dmat[34]      1.000     3.220     7.000        168         0
    dmat[35]      1.000     3.399     7.000        168         0
    dmat[36]      1.000     4.726     7.000        168         0
    dmat[37]      1.000     4.143     7.000        168         0
    dmat[38]      1.000     4.887     7.000        168         0
    calc pi=dmat[15]
    &    bi=dmat[18]
    &    psv=vmean(!p(dmat[21,23]))
    &    bsv=dmat[24]
    &    phv=vmean(!p(dmat[27,29]))
    &    bhv=vmean(!p(dmat[30...32]))
    &    pu=dmat[34]
    &    br=vmean(!p(dmat[36...38]))
    for z=pi,bi,psv,bsv,phv,bhv,pu,br
    trea products
    anov [prin=aov,miss,mean,%cv;fprob=yes] z;fit=f;res=r
    hist z
    hist r
    graph r;f
    endfor
```

```
***** Analysis of variance *****

Variate: pi

Source of variation              d.f.        s.s.        m.s.     v.r.  F pr.
products                            6     197.738      32.956     9.64  <.001
Residual                          161     550.542       3.420
Total                             167     748.280


***** Tables of means *****

Variate: pi

Grand mean  4.32

 products      cereal       towel  detergent        toms toothpaste      papers        fags
                 3.92        5.58       3.46        4.88       3.04        3.33        6.00


*** Standard errors of differences of means ***

Table              products
rep.                     24
s.e.d.                0.534


***** Stratum standard errors and coefficients of variation *****

Variate: pi

    d.f.          s.e.          cv%
     161         1.849         42.9



 Histogram of pi

                  - 1.5   19 *******************
            1.5 - 2.0   25 *************************
            2.0 - 2.5    0
            2.5 - 3.0   22 **********************
            3.0 - 3.5    0
            3.5 - 4.0   25 *************************
            4.0 - 4.5    0
            4.5 - 5.0   12 ************
            5.0 - 5.5    0
            5.5 - 6.0   25 *************************
            6.0 - 6.5    0
            6.5 - 7.0   40 ****************************************
            7.0 -        0

 Scale:  1 asterisk represents 1 unit.

 Histogram of r

                  - -4.8    3 ***
           -4.8 - -4.0    1 *
           -4.0 - -3.2    1 *
           -3.2 - -2.4   11 ***********
           -2.4 - -1.6   13 *************
           -1.6 - -0.8   32 ********************************
           -0.8 -  0.0   18 ******************
            0.0 -  0.8   24 ************************
            0.8 -  1.6   42 ******************************************
            1.6 -  2.4    6 ******
            2.4 -  3.2   11 ***********
            3.2 -  4.0    6 ******
            4.0 -         0

 Scale:  1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: bi

Source of variation          d.f.        s.s.       m.s.     v.r.  F pr.
products                        6     249.238     41.540    11.21  <.001
Residual                      161     596.667      3.706
Total                         167     845.905

***** Tables of means *****

Variate: bi

Grand mean  3.98

 products     cereal      towel  detergent       toms toothpaste      papers       fags
                3.33       5.29       3.21       4.50       2.71        2.75       6.04

*** Standard errors of differences of means ***

Table              products
rep.                     24
s.e.d.                0.556

***** Stratum standard errors and coefficients of variation *****

Variate: bi

   d.f.         s.e.        cv%
    161        1.925       48.4


 Histogram of bi

             - 1.5  28 ****************************
       1.5 - 2.0  31 *******************************
       2.0 - 2.5   0
       2.5 - 3.0  22 **********************
       3.0 - 3.5   0
       3.5 - 4.0  22 **********************
       4.0 - 4.5   0
       4.5 - 5.0   9 *********
       5.0 - 5.5   0
       5.5 - 6.0  13 *************
       6.0 - 6.5   0
       6.5 - 7.0  43 *******************************************
       7.0 -       0

 Scale:  1 asterisk represents 1 unit.

 Histogram of r

          - -4.8    3 ***
   -4.8 - -4.0    2 **
   -4.0 - -3.2    2 **
   -3.2 - -2.4    2 **
   -2.4 - -1.6   24 ************************
   -1.6 - -0.8   21 *********************
   -0.8 -  0.0   31 *******************************
    0.0 -  0.8   26 **************************
    0.8 -  1.6   28 ****************************
    1.6 -  2.4   11 ***********
    2.4 -  3.2    4 ****
    3.2 -  4.0   10 **********
    4.0 -         4 ****

 Scale:  1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: psv

Source of variation          d.f.       s.s.        m.s.    v.r.  F pr.
products                        6    120.446      20.074    7.41  <.001
Residual                      161    436.219       2.709
Total                         167    556.665


***** Tables of means *****

Variate: psv

Grand mean  4.92

 products     cereal       towel  detergent        toms toothpaste      papers       fags
                5.10        5.83       4.83        6.00       4.42        3.27       4.98


*** Standard errors of differences of means ***

Table              products
rep.                     24
s.e.d.                0.475


***** Stratum standard errors and coefficients of variation *****

Variate: psv

   d.f.          s.e.        cv%
    161         1.646       33.5
```

```
 Histogram of psv

            - 1.5  11 ***********
      1.5 - 2.0   6 ******
      2.0 - 2.5   7 *******
      2.5 - 3.0  13 *************
      3.0 - 3.5   8 ********
      3.5 - 4.0  17 *****************
      4.0 - 4.5   5 *****
      4.5 - 5.0  19 *******************
      5.0 - 5.5  23 ***********************
      5.5 - 6.0   5 *****
      6.0 - 6.5   7 *******
      6.5 - 7.0  47 ***********************************************
      7.0 -       0

 Scale: 1 asterisk represents 1 unit.
```

```
 Histogram of r

           - -4.0  0
     -4.0 - -3.2  3 ***
     -3.2 - -2.4  6 ******
     -2.4 - -1.6 23 ***********************
     -1.6 - -0.8 34 **********************************
     -0.8 -  0.0 13 *************
      0.0 -  0.8 28 ****************************
      0.8 -  1.6 27 ***************************
      1.6 -  2.4 26 **************************
      2.4 -  3.2  6 ******
      3.2 -  4.0  2 **
      4.0 -  4.8  0
      4.8 -       0

 Scale: 1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: bsv

Source of variation            d.f.       s.s.       m.s.    v.r.  F pr.
products                          6    147.702     24.617    7.65  <.001
Residual                        161    518.292      3.219
Total                           167    665.994

***** Tables of means *****

Variate: bsv

Grand mean  4.49

 products      cereal      towel  detergent       toms toothpaste      papers       fags
                 4.54       5.25       4.38       5.67       4.71        2.46       4.46

*** Standard errors of differences of means ***

Table               products
rep.                      24
s.e.d.                 0.518

***** Stratum standard errors and coefficients of variation *****

Variate: bsv

   d.f.          s.e.        cv%
    161         1.794       39.9


Histogram of bsv

             - 1.5   13 *************
       1.5 - 2.0     19 *******************
       2.0 - 2.5      0
       2.5 - 3.0     26 **************************
       3.0 - 3.5      0
       3.5 - 4.0     29 *****************************
       4.0 - 4.5      0
       4.5 - 5.0     22 **********************
       5.0 - 5.5      0
       5.5 - 6.0     13 *************
       6.0 - 6.5      0
       6.5 - 7.0     46 **********************************************
       7.0 -          0

Scale: 1 asterisk represents 1 unit.

Histogram of r

           - -4.0     1 *
      -4.0 - -3.2     6 ******
      -3.2 - -2.4     8 ********
      -2.4 - -1.6    16 ****************
      -1.6 - -0.8    26 **************************
      -0.8 -  0.0    31 *******************************
       0.0 -  0.8    23 ***********************
       0.8 -  1.6    19 *******************
       1.6 -  2.4    16 ****************
       2.4 -  3.2    21 *********************
       3.2 -  4.0     0
       4.0 -  4.8     1 *
       4.8 -          0

Scale: 1 asterisk represents 1 unit.
```

***** Analysis of variance *****

Variate: phv

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
products	6	35.863	5.977	3.61	0.002
Residual	161	266.708	1.657		
Total	167	302.571			

***** Tables of means *****

Variate: phv

Grand mean 6.143

products	cereal	towel	detergent	toms	toothpaste	papers	fags
	5.604	6.458	6.396	6.583	6.292	5.271	6.396

*** Standard errors of differences of means ***

Table	products
rep.	24
s.e.d.	0.3715

***** Stratum standard errors and coefficients of variation *****

Variate: phv

d.f.	s.e.	cv%
161	1.2871	21.0

Histogram of phv

```
      - 1.5    2 **
1.5 - 2.0      2 **
2.0 - 2.5      2 **
2.5 - 3.0      4 ****
3.0 - 3.5      6 ******
3.5 - 4.0      4 ****
4.0 - 4.5      3 ***
4.5 - 5.0      4 ****
5.0 - 5.5     15 ***************
5.5 - 6.0     17 *****************
6.0 - 6.5     18 ******************
6.5 - 7.0     91 *******************************************************************************************
7.0 -          0
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
     - -4.8    1 *
-4.8 - -4.2    1 *
-4.2 - -3.6    2 **
-3.6 - -3.0    2 **
-3.0 - -2.4    7 *******
-2.4 - -1.8    2 **
-1.8 - -1.2    7 *******
-1.2 - -0.6   14 **************
-0.6 -  0.0   22 **********************
 0.0 -  0.6   41 *****************************************
 0.6 -  1.2   49 *************************************************
 1.2 -  1.8   20 ********************
 1.8 -         0
```

Scale: 1 asterisk represents 1 unit.

```
***** Analysis of variance *****

Variate: bhv

Source of variation              d.f.        s.s.        m.s.     v.r.  F pr.
products                            6      87.161      14.527     6.32  <.001
Residual                          161     369.981       2.298
Total                             167     457.143

***** Tables of means *****

Variate: bhv

Grand mean  4.07

 products      cereal      towel  detergent      toms toothpaste      papers      fags
                 3.69       5.15       4.15      4.97       3.78        2.90      3.85

*** Standard errors of differences of means ***

Table              products
rep.                     24
s.e.d.                0.438

***** Stratum standard errors and coefficients of variation *****

Variate: bhv

    d.f.          s.e.          cv%
     161         1.516         37.2


Histogram of bhv

                - 1.5   12 ************
          1.5 - 2.0      9 *********
          2.0 - 2.5      7 *******
          2.5 - 3.0     32 ********************************
          3.0 - 3.5      7 *******
          3.5 - 4.0     25 *************************
          4.0 - 4.5      6 ******
          4.5 - 5.0     24 ************************
          5.0 - 5.5     10 **********
          5.5 - 6.0     17 *****************
          6.0 - 6.5      2 **
          6.5 - 7.0     17 *****************
          7.0 -          0

Scale:  1 asterisk represents 1 unit.

Histogram of r

              -  -2.4    9 *********
        -2.4  -  -1.8   11 ***********
        -1.8  -  -1.2   13 *************
        -1.2  -  -0.6   29 *****************************
        -0.6  -   0.0   25 *************************
         0.0  -   0.6   28 ****************************
         0.6  -   1.2   22 **********************
         1.2  -   1.8    9 *********
         1.8  -   2.4   11 ***********
         2.4  -   3.0    4 ****
         3.0  -   3.6    5 *****
         3.6  -   4.2    2 **
         4.2  -          0

Scale:  1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: pu

Source of variation          d.f.        s.s.         m.s.     v.r.  F pr.
products                        6     331.726       55.288    24.25  <.001
Residual                      161     367.125        2.280
Total                         167     698.851

***** Tables of means *****

Variate: pu

Grand mean  3.22

 products       cereal       towel  detergent        toms toothpaste        papers        fags
                  3.38        2.88       2.00        3.54       1.79          2.63        6.33

*** Standard errors of differences of means ***

Table               products
rep.                      24
s.e.d.                 0.436

***** Stratum standard errors and coefficients of variation *****

Variate: pu

   d.f.           s.e.          cv%
    161          1.510         46.9


Histogram of pu

             - 1.5  40 ****************************************
       1.5 - 2.0  39 ***************************************
       2.0 - 2.5   0
       2.5 - 3.0  30 ******************************
       3.0 - 3.5   0
       3.5 - 4.0  17 *****************
       4.0 - 4.5   0
       4.5 - 5.0  11 ***********
       5.0 - 5.5   0
       5.5 - 6.0   7 *******
       6.0 - 6.5   0
       6.5 - 7.0  24 ************************
       7.0 -       0

Scale:  1 asterisk represents 1 unit.

Histogram of r

          - -4.0   0
   -4.0 - -3.2   1 *
   -3.2 - -2.4   3 ***
   -2.4 - -1.6  19 *******************
   -1.6 - -0.8  26 **************************
   -0.8 -  0.0  42 ******************************************
    0.0 -  0.8  42 ******************************************
    0.8 -  1.6  14 **************
    1.6 -  2.4   7 *******
    2.4 -  3.2   7 *******
    3.2 -  4.0   4 ****
    4.0 -  4.8   3 ***
    4.8 -        0

Scale:  1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: br

Source of variation          d.f.       s.s.       m.s.    v.r.  F pr.
products                        6     35.902      5.984    2.45  0.027
Residual                      161    392.653      2.439
Total                         167    428.555

***** Tables of means *****

Variate: br

Grand mean  4.59

 products     cereal      towel  detergent      toms toothpaste      papers       fags
                4.82       5.36       4.17      4.97       4.01        4.15       4.61

*** Standard errors of differences of means ***

Table              products
rep.                     24
s.e.d.                0.451

***** Stratum standard errors and coefficients of variation *****

Variate: br

   d.f.            s.e.          cv%
    161           1.562         34.1


Histogram of br

             - 1.5    8 ********
       1.5 - 2.0      3 ***
       2.0 - 2.5      4 ****
       2.5 - 3.0     16 ****************
       3.0 - 3.5     10 **********
       3.5 - 4.0     26 **************************
       4.0 - 4.5     13 *************
       4.5 - 5.0     33 *********************************
       5.0 - 5.5      8 ********
       5.5 - 6.0     15 ***************
       6.0 - 6.5      5 *****
       6.5 - 7.0     27 ***************************
       7.0 -          0

Scale: 1 asterisk represents 1 unit.

Histogram of r

            - -3.6    3 ***
       -3.6 - -3.0    4 ****
       -3.0 - -2.4    6 ******
       -2.4 - -1.8    9 *********
       -1.8 - -1.2   11 ***********
       -1.2 - -0.6   25 *************************
       -0.6 -  0.0   27 ***************************
        0.0 -  0.6   24 ************************
        0.6 -  1.2   23 ***********************
        1.2 -  1.8   12 ************
        1.8 -  2.4   17 *****************
        2.4 -  3.0    7 *******
        3.0 -         0

Scale: 1 asterisk represents 1 unit.
```

Appendix II - Test Re-test Correlation Matix

1 DOS - P R E L I S 1.12
0 BY
0 KARL G JORESKOG AND DAG SORBOM

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(317)-831-6336

0THE FOLLOWING PRELIS CONTROL LINES HAVE BEEN READ :

```
 CORRELATION MATRIX FOR TEST RETEST MEAN SCORES;
 DA NI=18 NO=0
 RA FI=A:\TRTMEANS.PRN
 OR ALL
 SD 1
 SD 10
 OU MA=KM
```

1
0TOTAL SAMPLE SIZE = 84

0CONVERSION OF ORIGINAL VALUES TO CATEGORIES

0VARIABLE	CATEGORY 1	2	3	4	5	6	7	8
VAR 2	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 3	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 4	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
VAR 5	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 6	1.00	2.00	2.50	3.00	3.50	4.00	4.50	5.00
VAR 8	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 11	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 12	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 13	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
VAR 14	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
VAR 15	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
VAR 17	1.00	2.00	3.00	4.00	5.00	6.00	7.00	

0CONVERSION OF ORIGINAL VALUES TO CATEGORIES (Continued)

0VARIABLE	CATEGORY 9	10	11	12	13
VAR 4	5.00	5.50	6.00	6.50	7.00
VAR 6	5.50	6.00	6.50	7.00	
VAR 13	5.00	5.50	6.00	6.50	7.00
VAR 15	5.00	5.50	6.00	6.50	7.00

0UNIVARIATE FREQUENCY DISTRIBUTIONS FOR ORDINAL VARIABLES

0VARIABLE	CATEGORY 1	2	3	4	5	6	7	8	9	10	11	12	13
VAR 2	11	12	11	16	15	7	12						
VAR 3	25	16	12	13	6	6	6						
VAR 4	7	6	4	2	3	9	7	4	5	4	8	13	12
VAR 5	14	13	11	7	9	12	18						
VAR 6	2	8	2	2	6	3	8	5	3	4	7	34	
VAR 8	16	10	27	16	5	5	5						
VAR 11	10	14	9	18	10	11	12						
VAR 12	23	14	13	15	6	9	4						
VAR 13	6	6	6	1	4	8	9	3	5	6	5	11	14
VAR 14	15	11	14	6	8	9	21						
VAR 15	2	1	7	1	4	5	4	9	4	3	4	7	33
VAR 17	15	11	29	13	6	4	6						

0NORMAL SCORES FOR ORDINAL VARIABLES

0VARIABLE	CATEGORY 1	2	3	4	5	6	7	8	9	10	11	12	13
VAR 2	-1.624	-.842	-.417	.000	.486	.902	1.580						
VAR 3	-1.164	-.275	.151	.553	.924	1.250	1.909						
VAR 4	-1.840	-1.186	-.922	-.792	-.694	-.482	-.226	-.060	.075	.211	.399	.780	1.580
VAR 5	-1.499	-.701	-.289	-.015	.226	.570	1.361						
VAR 6	-2.356	-1.500	-1.122	-1.017	-.835	-.656	-.465	-.257	-.135	-.030	.135	.957	
VAR 8	-1.427	-.679	-.077	.610	1.044	1.353	1.989						
VAR 11	-1.671	-.846	-.416	.000	.433	.819	1.580						
VAR 12	-1.216	-.369	.045	.486	.879	1.296	2.083						
VAR 13	-1.909	-1.250	-.924	-.771	-.675	-.465	-.196	-.015	.105	.272	.448	.738	1.499
VAR 14	-1.462	-.698	-.274	.030	.242	.516	1.271						
VAR 15	-2.356	-1.887	-1.444	-1.151	-1.018	-.814	-.638	-.416	-.211	-.105	.000	.165	.979
VAR 17	-1.462	-.698	-.046	.625	1.020	1.314	1.909						

0UNIVARIATE SUMMARY STATISTICS FOR CONTINUOUS VARIABLES

0VARIABLE	MEAN	ST. DEV.	SKEWNESS	KURTOSIS	MINIMUM	FREQ.	MAXIMUM	FREQ.
VAR 7	3.464	1.968	.297	-1.129	1.000	12	7.000	4
VAR 9	4.570	1.258	-.119	-.163	1.700	2	7.000	5
VAR 16	3.514	1.966	.191	-1.239	1.000	13	7.000	3
VAR 18	4.525	1.359	-.165	-.222	1.300	1	7.000	6

Appendix II - Test Re-test Correlation Matix (cont.)

1CORRELATION MATRIX FOR TEST RETEST MEAN SCORES;

0 ESTIMATED CORRELATION MATRIX

0 +	VAR 2	VAR 3	VAR 4	VAR 5	VAR 6	VAR 7
VAR 2	1.000					
VAR 3	.646	1.000				
VAR 4	.571	.437	1.000			
VAR 5	.496	.463	.792	1.000		
VAR 6	.460	.294	.566	.482	1.000	
VAR 7	.530	.540	.483	.578	.515	1.000
VAR 8	.129	.006	-.116	-.059	-.137	-.219
VAR 9	.499	.436	.439	.435	.455	.653
VAR 11	.959	.628	.550	.507	.508	.536
VAR 12	.645	.849	.521	.496	.392	.556
VAR 13	.569	.419	.974	.768	.546	.452
VAR 14	.488	.446	.770	.965	.464	.548
VAR 15	.458	.287	.560	.466	.991	.497
VAR 16	.567	.557	.525	.585	.504	.976
VAR 17	.093	-.023	-.158	-.096	-.194	-.281
VAR 18	.512	.411	.393	.410	.448	.638

0 ESTIMATED CORRELATION MATRIX

0 +	VAR 8	VAR 9	VAR 11	VAR 12	VAR 13	VAR 14
VAR 8	1.000					
VAR 9	-.218	1.000				
VAR 11	.064	.493	1.000			
VAR 12	-.063	.605	.620	1.000		
VAR 13	-.076	.429	.555	.497	1.000	
VAR 14	-.036	.417	.508	.474	.792	1.000
VAR 15	-.129	.457	.504	.388	.543	.452
VAR 16	-.186	.647	.567	.565	.511	.571
VAR 17	.912	-.226	.013	-.094	-.115	-.088
VAR 18	-.141	.933	.508	.569	.405	.406

0 ESTIMATED CORRELATION MATRIX

0 +	VAR 15	VAR 16	VAR 17	VAR 18
VAR 15	1.000			
VAR 16	.487	1.000		
VAR 17	-.204	-.263	1.000	
VAR 18	.444	.642	-.147	1.000

0 THE PROBLEM USED 20112 BYTES (= 10.0% OF AVAILABLE WORKSPACE)

Note: Values quoted in text adjusted for paired sample

Variable Identification

TEST 1

VAR2 = Product Involvement
VAR3 = Brand Decision Involvement
VAR4 = Product Sign
VAR5 = Brand Sign
VAR6 = Product hedonic
VAR7 = Brand Hedonic
VAR8 = Product Utility
VAR9 = Brand Hedonic

TEST 2

VAR11 = Product Involvement
VAR12 = Brand Decision Involvement
VAR13 = Product Sign
VAR14 = Brand Sign
VAR15 = Product hedonic
VAR16 = Brand Hedonic
VAR17 = Product Utility
VAR18 = Brand Hedonic

Appendix II - ANOVA of Test Re-test Scores and Tests

```
666666666666666666666666666666666666666666666666666666666: 666666666666666666666666666666666666666666666666666666666
6666666666666666666666666 Digital Equipment Corporation - VAX/VMS Version V5.5 6666666666666666666666666
666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666666
```

```
Genstat 5  Release 2.1  (Vax/VMS5)                     15-JUN-1992 10:14:43.93
Copyright 1990, Lawes Agricultural Trust (Rothamsted Experimental Station)

   1  job 'trt analysis'
   2  unit [156]
   3  fact [levels=26] respond
   4  fact [levels=3;labels=!t(p1,p2,p3);valu=(1...3)52] prod
   5  fact [levels=2;labels=!t(test1,test2);valu=78(1,2)] tests
   6  open 'trtall.dat';ch=2
   7  read [ch=2] respond,v[1...14];frepres=le,14(*)

    Identifier   Minimum       Mean   Maximum     Values   Missing
          v[1]     1.000      3.923     7.000        156         0
          v[2]     1.000      3.090     7.000        156         0
          v[3]     1.000      4.372     7.000        156         0
          v[4]     1.000      4.474     7.000        156         0
          v[5]     1.000      4.147     7.000        156         0
          v[6]     1.000      4.981     7.000        156         0
          v[7]     1.000      5.667     7.000        156         0      Skew
          v[8]     1.000      3.962     7.000        156         0
          v[9]     1.000      3.282     7.000        156         0
         v[10]     1.000      3.314     7.000        156         0
         v[11]     1.000      3.160     7.000        156         0
         v[12]     1.000      4.276     7.000        156         0
         v[13]     1.000      3.891     7.000        156         0
         v[14]     1.000      5.628     7.000        156         0      Skew
   8  blocks respond
   9  trea prod*tests
  10  for z=v[]
  11  anov [prin=aov,mean,miss,%cv;fprob=yes] z;fit=f;res=r
  12  hist z
  13  hist r
  14  graph r;f
  15  endfor
```

Variable Identification

V[1]	Product Involvement	V[8]	Brand Hedonic (1st indicator)
V[2]	Brand Decision Involvement	V[9]	Brand Hedonic (2nd indicator)
V[3]	Product Sign (1st indicator)	V[10]	Brand Hedonic (3rd indicator)
V[4]	Product Sign (2nd indicator)	V[11]	Product Utility
V[5]	Brand Sign	V[12]	Brand Risk (1st indicator)
V[6]	Product Hedonic (1st Indicator)	V[13]	Brand Risk (2nd indicator)
V[7]	Product Hedonic (2nd indicator)	V[14]	Brand Risk (3rd indicator)

```
***** Analysis of variance *****

Variate: v[1]

Source of variation              d.f.        s.s.        m.s.     v.r.  F pr.

respond stratum                    25     183.744       7.350     3.99

respond.*Units* stratum
prod                                2     188.808      94.404    51.20  <.001
tests                               1       0.000       0.000     0.00  1.000
prod.tests                          2       0.038       0.019     0.01  0.990
Residual                          125     230.487       1.844

Total                             155     603.077

***** Tables of means *****

Variate: v[1]

Grand mean  3.92

     prod         p1        p2        p3
                3.60      5.40      2.77

    tests      test1     test2
                3.92      3.92

     prod      tests     test1     test2
       p1                 3.62      3.58
       p2                 5.38      5.42
       p3                 2.77      2.77

*** Standard errors of differences of means ***

Table                       prod        tests         prod
                                                     tests
rep.                          52           78           26
s.e.d.                     0.266        0.217        0.377

***** Stratum standard errors and coefficients of variation *****

Variate: v[1]

Stratum                      d.f.          s.e.        cv%

respond                        25         1.107       28.2
respond.*Units*               125         1.358       34.6


Histogram of v[1]

              - 1.5   21 *********************
        1.5 - 2.0   26 **************************
        2.0 - 2.5    0
        2.5 - 3.0   18 ******************
        3.0 - 3.5    0
        3.5 - 4.0   32 ********************************
        4.0 - 4.5    0
        4.5 - 5.0   21 *********************
        5.0 - 5.5    0
        5.5 - 6.0   14 **************
        6.0 - 6.5    0
        6.5 -       24 ************************

Scale:  1 asterisk represents 1 unit.

Histogram of r

          - -3.2    0
     -3.2 - -2.4    2 **
     -2.4 - -1.6   13 *************
     -1.6 - -0.8   23 ***********************
     -0.8 -  0.0   43 *******************************************
      0.0 -  0.8   32 ********************************
      0.8 -  1.6   32 ********************************
      1.6 -  2.4    7 *******
      2.4 -  3.2    2 **
      3.2 -  4.0    2 **
      4.0 -  4.8    0
      4.8 -         0

Scale:  1 asterisk represents 1 unit.
```

***** Analysis of variance *****

Variate: v[2]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	142.410	5.696	2.85	
respond.*Units* stratum					
prod	2	180.667	90.333	45.24	<.001
tests	1	0.641	0.641	0.32	0.572
prod.tests	2	1.436	0.718	0.36	0.699
Residual	125	249.590	1.997		
Total	155	574.744			

***** Tables of means *****

Variate: v[2]

Grand mean 3.09

prod	p1	p2	p3
	2.77	4.54	1.96

tests	test1	test2
	3.03	3.15

prod	tests	test1	test2
p1		2.73	2.81
p2		4.35	4.73
p3		2.00	1.92

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.277	0.226	0.392

***** Stratum standard errors and coefficients of variation *****

Variate: v[2]

Stratum	d.f.	s.e.	cv%
respond	25	0.974	31.5
respond.*Units*	125	1.413	45.7

Histogram of v[2]

```
          - 1.5   47 ***********************************************
    1.5 - 2.0   25 *************************
    2.0 - 2.5    0
    2.5 - 3.0   21 *********************
    3.0 - 3.5    0
    3.5 - 4.0   28 ****************************
    4.0 - 4.5    0
                10 **********
```

Scale: .

Histogram of r

```
         - -3.2    2 **
    -3.2 - -2.4    1 *
    -2.4 - -1.6   10 **********
    -1.6 - -0.8   23 ***********************
    -0.8 -  0.0   42 ******************************************
     0.0 -  0.8   41 *****************************************
     0.8 -  1.6   22 **********************
     1.6 -  2.4   11 ***********
     2.4 -  3.2    1 *
     3.2 -  4.0    2 **
     4.0 -  4.8    1 *
     4.8 -         0
```

***** Analysis of variance *****

Variate: v[3]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	329.436	13.177	9.68	
respond.*Units* stratum					
prod	2	204.705	102.353	75.18	<.001
tests	1	0.000	0.000	0.00	1.000
prod.tests	2	0.115	0.058	0.04	0.959
Residual	125	170.179	1.361		
Total	155	704.436			

***** Tables of means *****

Variate: v[3]

Grand mean 4.372

prod	p1	p2	p3
	4.788	5.519	2.808

tests	test1	test2
	4.372	4.372

prod	tests	test1	test2
p1		4.808	4.769
p2		5.538	5.500
p3		2.769	2.846

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.2288	0.1868	0.3236

***** Stratum standard errors and coefficients of variation *****

Variate: v[3]

Stratum	d.f.	s.e.	cv%
respond	25	1.4820	33.9
respond.*Units*	125	1.1668	26.7

Histogram of v[3]

```
      - 1.5  21 *********************
1.5 - 2.0    14 **************
2.0 - 2.5     0
2.5 - 3.0    26 **************************
3.0 - 3.5     0
3.5 - 4.0    23 ***********************
4.0 - 4.5     0
4.5 - 5.0     6 ******
5.0 - 5.5     0
5.5 - 6.0    29 *****************************
6.0 - 6.5     0
6.5 -        37 *************************************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
       - -3.0   2 **
-3.0 - -2.4     2 **
-2.4 - -1.8     3 ***
-1.8 - -1.2     3 ***
-1.2 - -0.6    27 ***************************
-0.6 -  0.0    49 *************************************************
 0.0 -  0.6    28 ****************************
 0.6 -  1.2    22 **********************
 1.2 -  1.8    15 ***************
 1.8 -  2.4     1 *
 2.4 -  3.0     4 ****
```

```
***** Analysis of variance *****

Variate: v[4]

Source of variation              d.f.        s.s.        m.s.     v.r.  F pr.

respond stratum                    25     317.564      12.703     6.89

respond.*Units* stratum
prod                                2     186.821      93.410    50.65  <.001
tests                               1       0.000       0.000     0.00  1.000
prod.tests                          2       0.000       0.000     0.00  1.000
Residual                          125     230.513       1.844

Total                             155     734.897

***** Tables of means *****

Variate: v[4]

Grand mean  4.47

     prod        p1        p2        p3
               4.69      5.69      3.04

    tests     test1     test2
               4.47      4.47

     prod     tests     test1     test2
       p1               4.69      4.69
       p2               5.69      5.69
       p3               3.04      3.04

*** Standard errors of differences of means ***

Table                     prod        tests        prod
                                                  tests
rep.                        52           78          26
s.e.d.                   0.266        0.217       0.377

***** Stratum standard errors and coefficients of variation *****

Variate: v[4]

Stratum                       d.f.          s.e.         cv%

respond                         25         1.455        32.5
respond.*Units*                125         1.358        30.4

Histogram of v[4]

               - 1.5   22 **********************
         1.5 - 2.0     14 **************
         2.0 - 2.5      0
         2.5 - 3.0     20 ********************
         3.0 - 3.5      0
         3.5 - 4.0     24 ************************
         4.0 - 4.5      0
         4.5 - 5.0      6 ******
         5.0 - 5.5      0
         5.5 - 6.0     28 ****************************
         6.0 - 6.5      0
         6.5 -         42 ******************************************

Scale:  1 asterisk represents 1 unit.

Histogram of r

              - -3.2    2 **
        -3.2 - -2.4     4 ****
        -2.4 - -1.6     2 **
        -1.6 - -0.8    36 ************************************
        -0.8 -  0.0    42 ******************************************
         0.0 -  0.8    38 **************************************
         0.8 -  1.6    22 **********************
         1.6 -  2.4     6 ******
         2.4 -  3.2     2 **
         3.2 -  4.0     0
         4.0 -  4.8     2 **
```

***** Analysis of variance *****

Variate: v[5]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	274.776	10.991	4.97	
respond.*Units* stratum					
prod	2	234.090	117.045	52.89	<.001
tests	1	0.058	0.058	0.03	0.872
prod.tests	2	0.038	0.019	0.01	0.991
Residual	125	276.647	2.213		
Total	155	785.609			

***** Tables of means *****

Variate: v[5]

Grand mean 4.15

prod	p1	p2	p3
	4.35	5.54	2.56

tests	test1	test2
	4.13	4.17

prod	tests	test1	test2
p1		4.31	4.38
p2		5.54	5.54
p3		2.54	2.58

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.292	0.238	0.413

***** Stratum standard errors and coefficients of variation *****

Variate: v[5]

Stratum	d.f.	s.e.	cv%
respond	25	1.353	32.6
respond.*Units*	125	1.488	35.9

Histogram of v[5]

```
      - 1.5  28 ****************************
  1.5 - 2.0  21 *********************
  2.0 - 2.5   0
  2.5 - 3.0  20 ********************
  3.0 - 3.5   0
  3.5 - 4.0  14 **************
  4.0 - 4.5   0
  4.5 - 5.0  13 *************
  5.0 - 5.5   0
  5.5 - 6.0  24 ************************
  6.0 - 6.5   0
  6.5 -      36 ************************************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
       - -2.4    6 ******
  -2.4 - -1.6    6 ******
  -1.6 - -0.8   36 ************************************
  -0.8 -  0.0   39 ***************************************
   0.0 -  0.8   22 **********************
   0.8 -  1.6   24 ************************
   1.6 -  2.4   20 ********************
   2.4 -  3.2    1 *
   3.2 -  4.0    0
```

```
***** Analysis of variance *****

Variate: v[6]

Source of variation          d.f.       s.s.       m.s.    v.r.  F pr.

respond stratum                25    404.776     16.191   11.08

respond.*Units* stratum
prod                            2    105.500     52.750   36.10  <.001
tests                           1      0.006      0.006    0.00  0.947
prod.tests                      2      0.013      0.006    0.00  0.996
Residual                      125    182.647      1.461

Total                         155    692.942


***** Tables of means *****

Variate: v[6]

Grand mean  4.981

      prod       p1        p2        p3
              4.769     6.077     4.096

     tests    test1     test2
              4.987     4.974

      prod    tests     test1     test2
        p1              4.769     4.769
        p2              6.077     6.077
        p3              4.115     4.077


*** Standard errors of differences of means ***

Table                  prod      tests       prod
                                            tests
rep.                     52         78         26
s.e.d.               0.2371     0.1936     0.3353


***** Stratum standard errors and coefficients of variation *****

Variate: v[6]

Stratum                    d.f.          s.e.          cv%

respond                      25        1.6427         33.0
respond.*Units*             125        1.2088         24.3


Histogram of v[6]

            - 1.5    9 *********
        1.5 - 2.0   23 ***********************
        2.0 - 2.5    0
        2.5 - 3.0   12 ************
        3.0 - 3.5    0
        3.5 - 4.0   20 ********************
        4.0 - 4.5    0
        4.5 - 5.0   10 **********
        5.0 - 5.5    0
        5.5 - 6.0   18 ******************
        6.0 - 6.5    0
        6.5 -       64 ****************************************************************

Scale:  1 asterisk represents 1 unit.


Histogram of r

          - -3.0   2 **
     -3.0 - -2.4   0
     -2.4 - -1.8   5 *****
     -1.8 - -1.2   5 *****
     -1.2 - -0.6  31 *******************************
     -0.6 -  0.0  34 **********************************
      0.0 -  0.6  41 *****************************************
      0.6 -  1.2  22 **********************
      1.2 -  1.8   6 ******
      1.8 -  2.4   4 ****
```

***** Analysis of variance *****

Variate: v[7]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	353.667	14.147	10.46	
respond.*Units* stratum					
prod	2	65.936	32.968	24.38	<.001
tests	1	0.000	0.000	0.00	1.000
prod.tests	2	0.038	0.019	0.01	0.986
Residual	125	169.026	1.352		
Total	155	588.667			

***** Tables of means *****

Variate: v[7]

Grand mean 5.667

prod	p1	p2	p3
	5.538	6.519	4.942

tests	test1	test2
	5.667	5.667

prod	tests	test1	test2
p1		5.538	5.538
p2		6.538	6.500
p3		4.923	4.962

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.2281	0.1862	0.3225

***** Stratum standard errors and coefficients of variation *****

Variate: v[7]

Stratum	d.f.	s.e.	cv%
respond	25	1.5355	27.1
respond.*Units*	125	1.1628	20.5

Histogram of v[7]

```
      - 1.5     6 ******
1.5 - 2.0      14 **************
2.0 - 2.5       0
2.5 - 3.0       7 *******
3.0 - 3.5       0
3.5 - 4.0      15 ***************
4.0 - 4.5       0
4.5 - 5.0      12 ************
5.0 - 5.5       0
5.5 - 6.0       5 *****
6.0 - 6.5       0
6.5 -          97 *********************************************************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
       - -3.0    4 ****
-3.0 - -2.5      0
-2.5 - -2.0      2 **
-2.0 - -1.5      4 ****
-1.5 - -1.0      5 *****
-1.0 - -0.5     40 ****************************************
-0.5 -  0.0      7 *******
 0.0 -  0.5     40 ****************************************
 0.5 -  1.0     38 **************************************
 1.0 -  1.5      9 *********
 1.5 -  2.0      2 **
 2.0 -           5 *****
```

Scale: 1 asterisk represents 1 unit.

```
***** Analysis of variance *****

Variate: v[8]

Source of variation            d.f.       s.s.        m.s.     v.r.  F pr.

respond stratum                  25    293.436      11.737     6.40

respond.*Units* stratum
prod                              2    341.115     170.558    93.06  <.001
tests                             1      0.026       0.026     0.01  0.906
prod.tests                        2      0.090       0.045     0.02  0.976
Residual                        125    229.103       1.833

Total                           155    863.769

***** Tables of means *****

Variate: v[8]

Grand mean  3.96

     prod        p1        p2        p3
               3.13      6.04      2.71

    tests     test1     test2
               3.97      3.95

     prod     tests     test1     test2
       p1                3.12      3.15
       p2                6.08      6.00
       p3                2.73      2.69

*** Standard errors of differences of means ***

Table                     prod        tests        prod
                                                   tests
rep.                        52           78          26
s.e.d.                   0.266        0.217       0.375

***** Stratum standard errors and coefficients of variation *****

Variate: v[8]

Stratum                     d.f.         s.e.        cv%

respond                       25        1.399       35.3
respond.*Units*              125        1.354       34.2


Histogram of v[8]

         - 1.5   35 ***********************************
   1.5 - 2.0   24 ************************
   2.0 - 2.5    0
   2.5 - 3.0   19 *******************
   3.0 - 3.5    0
   3.5 - 4.0    6 ******
   4.0 - 4.5    0
   4.5 - 5.0   18 ******************
   5.0 - 5.5    0
   5.5 - 6.0   14 **************
   6.0 - 6.5    0
   6.5 -       40 ****************************************

Scale: 1 asterisk represents 1 unit.

Histogram of r

          - -3.0    2 **
   -3.0 - -2.4    2 **
   -2.4 - -1.8    8 ********
   -1.8 - -1.2    8 ********
   -1.2 - -0.6   33 *********************************
   -0.6 -  0.0   30 ******************************
    0.0 -  0.6   17 *****************
    0.6 -  1.2   30 ******************************
    1.2 -  1.8   17 *****************
    1.8 -  2.4    5 *****
    2.4 -  3.0    2 **
    3.0 -         2 **

Scale: 1 asterisk represents 1 unit.
```

```
***** Analysis of variance *****

Variate: v[9]

Source of variation              d.f.        s.s.        m.s.     v.r.  F pr.

respond stratum                    25     163.923       6.557     2.59

respond.*Units* stratum
prod                                2     340.974     170.487    67.46  <.001
tests                               1       0.410       0.410     0.16  0.688
prod.tests                          2       0.359       0.179     0.07  0.931
Residual                          125     315.923       2.527

Total                             155     821.590


***** Tables of means *****

Variate: v[9]

Grand mean  3.28

     prod         p1        p2        p3
                2.54      5.35      1.96

    tests      test1     test2
                3.33      3.23

     prod      tests     test1     test2
       p1                 2.65      2.42
       p2                 5.38      5.31
       p3                 1.96      1.96


*** Standard errors of differences of means ***

Table                     prod         tests          prod
                                                     tests
rep.                        52            78            26
s.e.d.                   0.312         0.255         0.441


***** Stratum standard errors and coefficients of variation *****

Variate: v[9]

Stratum                    d.f.          s.e.          cv%

respond                      25         1.045         31.9
respond.*Units*             125         1.590         48.4
```

```
Histogram of v[9]

          - 1.5   53 *****************************************************
    1.5 - 2.0     30 ******************************
    2.0 - 2.5      0
    2.5 - 3.0     10 **********
    3.0 - 3.5      0
    3.5 - 4.0      9 *********
    4.0 - 4.5      0
    4.5 - 5.0     17 *****************
    5.0 - 5.5      0
    5.5 - 6.0     11 ***********
    6.0 - 6.5      0
    6.5 -         26 **************************

Scale: 1 asterisk represents 1 unit.


Histogram of r

          - -4.0   0
   -4.0 - -3.2     3 ***
   -3.2 - -2.4     1 *
   -2.4 - -1.6    16 ****************
   -1.6 - -0.8    23 ***********************
   -0.8 -  0.0    47 ***********************************************
    0.0 -  0.8    17 *****************
    0.8 -  1.6    25 *************************
    1.6 -  2.4    18 ******************
    2.4 -  3.2     2 **
    3.2 -  4.0     4 ****
    4.0 -          0

Scale: 1 asterisk represents 1 unit.
```

***** Analysis of variance *****

Variate: v[10]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	154.776	6.191	2.74	
respond.*Units* stratum					
prod	2	316.167	158.083	69.93	<.001
tests	1	0.006	0.006	0.00	0.958
prod.tests	2	0.090	0.045	0.02	0.980
Residual	125	282.571	2.261		
Total	155	753.609			

***** Tables of means *****

Variate: v[10]

Grand mean 3.31

prod	p1	p2	p3
	2.35	5.33	2.27

tests	test1	test2
	3.31	3.32

prod	tests	test1	test2
p1		2.35	2.35
p2		5.35	5.31
p3		2.23	2.31

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.295	0.241	0.417

***** Stratum standard errors and coefficients of variation *****

Variate: v[10]

Stratum	d.f.	s.e.	cv%
respond	25	1.016	30.7
respond.*Units*	125	1.504	45.4

Histogram of v[10]

```
          - 1.5   51 ***************************************************
    1.5   - 2.0   24 ************************
    2.0   - 2.5    0
    2.5   - 3.0   15 ***************
    3.0   - 3.5    0
    3.5   - 4.0   12 ************
    4.0   - 4.5    0
    4.5   - 5.0   18 ******************
    5.0   - 5.5    0
    5.5   - 6.0   17 *****************
    6.0   - 6.5    0
    6.5   -       19 *******************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
          - -4.0    0
   -4.0   - -3.2    4 ****
   -3.2   - -2.4    2 **
   -2.4   - -1.6   12 ************
   -1.6   - -0.8   26 **************************
   -0.8   -  0.0   36 ************************************
    0.0   -  0.8   28 ****************************
    0.8   -  1.6   31 *******************************
    1.6   -  2.4   12 ************
    2.4   -  3.2    5 *****
    3.2   -  4.0    0
    4.0   -         0
```

Scale: 1 asterisk represents 1 unit.

```
***** Analysis of variance *****

Variate: v[11]

Source of variation           d.f.        s.s.        m.s.     v.r.  F pr.

respond stratum                 25     219.160       8.766     5.16

respond.*Units* stratum
prod                             2       3.167       1.583     0.93  0.397
tests                            1       0.058       0.058     0.03  0.854
prod.tests                       2       0.038       0.019     0.01  0.989
Residual                       125     212.571       1.701

Total                          155     434.994

***** Tables of means *****

Variate: v[11]

Grand mean  3.16

     prod        p1        p2        p3
               3.35      3.00      3.13

    tests     test1     test2
               3.14      3.18

     prod     tests     test1     test2
       p1                3.31      3.38
       p2                3.00      3.00
       p3                3.12      3.15

*** Standard errors of differences of means ***

Table                     prod        tests        prod
                                                   tests
rep.                        52           78          26
s.e.d.                   0.256        0.209       0.362

***** Stratum standard errors and coefficients of variation *****

Variate: v[11]

Stratum                     d.f.           s.e.         cv%

respond                       25          1.209        38.2
respond.*Units*              125          1.304        41.3


Histogram of v[11]

          - 1.5   32 ********************************
    1.5 - 2.0     20 ********************
    2.0 - 2.5      0
    2.5 - 3.0     50 **************************************************
    3.0 - 3.5      0
    3.5 - 4.0     26 **************************
    4.0 - 4.5      0
    4.5 - 5.0     10 **********
    5.0 - 5.5      0
    5.5 - 6.0      9 *********
    6.0 - 6.5      0
    6.5 -          9 *********

Scale:  1 asterisk represents 1 unit.

Histogram of r

           - -3.0    2 **
    -3.0 - -2.4      2 **
    -2.4 - -1.8      9 *********
    -1.8 - -1.2     10 **********
    -1.2 - -0.6     15 ***************
    -0.6 -  0.0     34 **********************************
     0.0 -  0.6     43 *******************************************
     0.6 -  1.2     24 ************************
     1.2 -  1.8      7 *******
     1.8 -  2.4      5 *****
     2.4 -  3.0      2 **
     3.0 -           3 ***

Scale:  1 asterisk represents 1 unit.
```

***** Analysis of variance *****

Variate: v[12]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	122.314	4.893	1.70	
respond.*Units* stratum					
prod	2	122.167	61.083	21.18	<.001
tests	1	0.160	0.160	0.06	0.814
prod.tests	2	0.090	0.045	0.02	0.985
Residual	125	360.417	2.883		
Total	155	605.147			

***** Tables of means *****

Variate: v[12]

Grand mean 4.28

prod	p1	p2	p3
	4.13	5.42	3.27

tests	test1	test2
	4.31	4.24

prod	tests	test1	test2
p1		4.19	4.08
p2		5.42	5.42
p3		3.31	3.23

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.333	0.272	0.471

***** Stratum standard errors and coefficients of variation *****

Variate: v[12]

Stratum	d.f.	s.e.	cv%
respond	25	0.903	21.1
respond.*Units*	125	1.698	39.7

Histogram of v[12]

```
      - 1.5   12 ************
1.5 - 2.0   34 **********************************
2.0 - 2.5    0
2.5 - 3.0    8 ********
3.0 - 3.5    0
3.5 - 4.0   24 ************************
4.0 - 4.5    0
4.5 - 5.0   29 *****************************
5.0 - 5.5    0
5.5 - 6.0   21 *********************
6.0 - 6.5    0
6.5 -       28 ****************************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
     - -3.2    4 ****
-3.2 - -2.4    4 ****
-2.4 - -1.6   19 *******************
-1.6 - -0.8   18 ******************
-0.8 -  0.0   31 *******************************
 0.0 -  0.8   27 ***************************
 0.8 -  1.6   35 ***********************************
 1.6 -  2.4   14 **************
 2.4 -  3.2    0
 3.2 -  4.0    2 **
 4.0 -  4.8    0
 4.8 -         2 **
```

Scale: 1 asterisk represents 1 unit.

```
***** Analysis of variance *****

Variate: v[13]

Source of variation             d.f.        s.s.        m.s.    v.r.  F pr.

respond stratum                   25     170.647       6.826    3.34

respond.*Units* stratum
prod                               2     181.167      90.583   44.35  <.001
tests                              1       0.006       0.006    0.00  0.955
prod.tests                         2       0.013       0.006    0.00  0.997
Residual                         125     255.314       2.043

Total                            155     607.147

***** Tables of means *****

Variate: v[13]

Grand mean  3.89

     prod        p1        p2        p3
               3.62      5.33      2.73

    tests     test1     test2
               3.90      3.88

     prod     tests     test1     test2
       p1               3.62      3.62
       p2               5.35      5.31
       p3               2.73      2.73

*** Standard errors of differences of means ***

Table                    prod        tests          prod
                                                    tests
rep.                       52           78            26
s.e.d.                  0.280        0.229         0.396

***** Stratum standard errors and coefficients of variation *****

Variate: v[13]

Stratum                        d.f.          s.e.          cv%

respond                          25         1.067         27.4
respond.*Units*                 125         1.429         36.7


Histogram of v[13]

                 - 1.5   22 **********************
           1.5 - 2.0     14 **************
           2.0 - 2.5      0
           2.5 - 3.0     45 *********************************************
           3.0 - 3.5      0
           3.5 - 4.0     23 ***********************
           4.0 - 4.5      0
           4.5 - 5.0      6 ******
           5.0 - 5.5      0
           5.5 - 6.0     22 **********************
           6.0 - 6.5      0
           6.5 -         24 ************************

Scale:  1 asterisk represents 1 unit.


Histogram of r

                 - -2.5   8 ********
          -2.5 - -2.0     4 ****
          -2.0 - -1.5     9 *********
          -1.5 - -1.0    13 *************
          -1.0 - -0.5    17 *****************
          -0.5 -  0.0    23 ***********************
           0.0 -  0.5    24 ************************
           0.5 -  1.0    31 *******************************
           1.0 -  1.5     4 ****
           1.5 -  2.0    13 *************
           2.0 -  2.5    10 **********
           2.5 -          0

Scale:  1 asterisk represents 1 unit.
```

***** Analysis of variance *****

Variate: v[14]

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
respond stratum	25	276.769	11.071	10.98	
respond.*Units* stratum					
prod	2	17.859	8.929	8.85	<.001
tests	1	1.641	1.641	1.63	0.204
prod.tests	2	0.090	0.045	0.04	0.957
Residual	125	126.077	1.009		
Total	155	422.436			

***** Tables of means *****

Variate: v[14]

Grand mean 5.628

prod	p1	p2	p3
	5.596	6.058	5.231

tests	test1	test2
	5.731	5.526

prod	tests	test1	test2
p1		5.731	5.462
p2		6.154	5.962
p3		5.308	5.154

*** Standard errors of differences of means ***

Table	prod	tests	prod tests
rep.	52	78	26
s.e.d.	0.1970	0.1608	0.2785

***** Stratum standard errors and coefficients of variation *****

Variate: v[14]

Stratum	d.f.	s.e.	cv%
respond	25	1.3584	24.1
respond.*Units*	125	1.0043	17.8

Histogram of v[14]

```
      - 1.5    3 ***
1.5 - 2.0    5 *****
2.0 - 2.5    0
2.5 - 3.0   11 ***********
3.0 - 3.5    0
3.5 - 4.0   25 *************************
4.0 - 4.5    0
4.5 - 5.0   15 ***************
5.0 - 5.5    0
5.5 - 6.0   22 **********************
6.0 - 6.5    0
6.5 -       75 ***************************************************************************
```

Scale: 1 asterisk represents 1 unit.

Histogram of r

```
       - -3.0    1 *
-3.0 - -2.4    2 **
-2.4 - -1.8    4 ****
-1.8 - -1.2    5 *****
-1.2 - -0.6   10 **********
-0.6 -  0.0   54 ******************************************************
 0.0 -  0.6   55 *******************************************************
 0.6 -  1.2   15 ***************
 1.2 -  1.8    5 *****
 1.8 -  2.4    3 ***
 2.4 -  3.0    2 **
 3.0 -         0
```

Scale: 1 asterisk represents 1 unit.

Appendix II - Test re-test Questionnaire

CONSUMER PRODUCTS - PILOT QUESTIONNAIRE

Thank you for agreeing to complete this questionnaire. You will be asked to complete it today and again in two weeks time. PLEASE COMPLETE THE QUESTIONNAIRE ONLY IF YOU HAVE USED AT LEAST TWO OF THE THREE PRODUCTS IN THE LAST MONTH. The results from this survey will be used to develop a questionnaire for a major student study into attitudes towards consumer products. All the answers that you give are entirely confidential. Your name will not be used in connection with the results.

All the questions ask how strongly you agree or disagree with statements about three products. Please circle the number on the scale that you feel is closest to your opinion. Thank you again for taking part.

---

1. I have a strong interest in:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

2. I would choose the following very carefully:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

3. Using the following products helps me to express my personality:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

4. Knowing whether or not a person uses the following tells a lot about that person:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

5. You can tell a lot about a person from which <u>brand</u> they use of the following:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

6. I would give myself great pleasure by purchasing:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

7. To buy the following would be like giving myself a present or treat:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

8. I believe that different <u>brands</u> of the following would give different amounts of pleasure:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

9. All <u>brands</u> of the following would not be equally enjoyable:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

10. No matter what <u>brand</u> you buy of the following you get the same pleasure:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	7	6	5	4	3	2	1
Paper Kitchen Towel	7	6	5	4	3	2	1
National newspapers	7	6	5	4	3	2	1

11. The following are basically useful products:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

12. When you buy the following it is not a big deal if you buy the wrong <u>brand</u> by mistake:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	7	6	5	4	3	2	1
Paper Kitchen Towel	7	6	5	4	3	2	1
National newspapers	7	6	5	4	3	2	1

13 It is very annoying to buy any of the following which aren't right:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

14. A bad buy of the following could bring you trouble:-

	Strongly Agree						Strongly Disagree
Breakfast Cereal	1	2	3	4	5	6	7
Paper Kitchen Towel	1	2	3	4	5	6	7
National newspapers	1	2	3	4	5	6	7

NAME: ______________________________

ADDRESS: ______________________________

____

____

OCCUPATION: ____________________ SEX: __________

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. PLEASE RETURN IT TO BY

Enquires to: David Walker, Cranfield School of Management, Cranfield, Bedford MK43 0AL.

Appendix II - Example Summary Sheet Used in Fishbein Focus Group

NAME:______________________________

NATIONAL NEWSPAPERS

What are the advantages of buying your regular National Newspaper in the next month?

What are the disadvantages?

Who might influence your choice?

Appendix II - Questionnaire used in Fishbein Focus Group and Interviews

Cranfield School of Management
Cranfield Institute of Technology
Cranfield Bedford MK43 0AL England
Telephone National Bedford (0234) 751122
International +44 234 751122
Telex 826559 CITMAN G
Telefax (0234) 751806

Cranfield

CONSUMER PRODUCTS INTERVIEWS

Thank you for taking part in the interview. Please complete the questions below and sign the declaration. The foregoing discussion and the answers to these questions are entirely confidential and will not be used in connection with anything other than this research project. Your name will not be linked to your answers in any way.

1. Which of the following best describes how often you buy the products:- (circle the appropriate number)

	Never	Less than Monthly	Monthly	Fortnightly	Weekly	Daily
Cereal	1	2	3	4	5	6
Kitchen Towel	1	2	3	4	5	6
Newspapers	1	2	3	4	5	6

2. What are your regular brands of the following:-

Cereal ....
Kitchen Towel ....
Newspapers ....

3. How loyal are you to your regular brands? (circle the most appropriate number along the scale)

	Not at All					Highly Loyal
Cereal	1	2	3	4	5	6
Kitchen Towel	1	2	3	4	5	6
Newspapers	1	2	3	4	5	6

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Cranfield

CONSUMER PRODUCTS INTERVIEWS

4. What is your occupation?

____

5. What is the occupation of your spouse / partner (where applicable)?

____

NAME: ______________________________
ADDRESS: ______________________________

I participated in the above interview on ....(DATE).

SIGNED: ______________________________

Thank you again for your help.

David Walker (Phd Research Student)

Appendix III

- Main Survey Matrial

- Warmer Letter
- Call Record Sheet
- Instructions for Panel Members
- First Questionnaire
- Diary Sheet
- Second Questionnaire
- Example house call sheets and follow up letters

Cranfield School of Management
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Telefax (0234) 751806

Cranfield

<u>Consumer Products Panel Study</u>

Dear Householder,

I am a student at the Cranfield School of Management. Over the next few days one of my fellow students or I will be calling to ask if you can help me by taking part in a panel study of householders in your area.

By taking part, not only will you be helping with my research work at the school, but you will also gain free entry into the panel draw plus a free gift.

Attached is a brief note giving details of the study. Naturally, your participation is fully confidential.

When I call I will be carrying a Cranfield identification card. I look forward to talking to you.

Yours sincerely,

David Walker

David Walker
Phd Research Student.

Cranfield School of Management.....

Invites you to take part in a study to determine attitudes to everyday products in the 1990's

What's in it for me?

- Free entry to the panel draw - First prize £300
- Free entry to the monthly draw - cash prizes of £50 to be won
- Free entry to the fortnightly draw - bottles of champagne, gift vouchers and cash to be won
- Free gift when you join the panel

Plus

- You'll be helping me and fellow students who are carrying out the study
- You have an opportunity to make your opinion count

What do I have to do?

- Fill in two simple questionnaires (which take only around ten minutes each to complete)
- Keep a simple diary of what newspapers, breakfast cereal and kitchen towel you buy until November this year.

....and thats all!

P.S. A maximum of 300 households will be taking part in the study, so the draw prizes could easily be yours!

CALL RECORD *AREA:* ______________________ : ________ *DATE:* ____________

STREET	HOUSE NUMBER	PRE-MAIL DATE	CALL DATE	INTER-VIEWER	CALL RESULT					RESP. NO.	NOTES
					OUT	IN	+VE	-VE	RECALL		

MILTON KEYNES PANEL

GENERAL INFORMATION

Welcome to the panel. This sheet contains a brief description of what the research is about and details of how the panel is administered. Thank you for joining the panel, I hope that you enjoy taking part in the study.

About the Research:

The research will determine how we regard certain products in the 1990's and what are the important issues when shopping. The work is being funded by the School of Management and the results will not be passed directly to any company. No answer that you give will be linked to your name in any way. All responses are entirely confidential.

HOW THE PANEL WORKS

Questionnaires:

You have already completed the first questionnaire. When these have been processed you will be sent your free gift. Towards the end of July you will be asked to complete a second questionnaire, which contains more simple questions about your attitude to the products.

Diary Sheets:

When you joined the panel you were given your first diary sheet. You should write in it any purchases you make of the products as you go along. Towards the end of the period a new diary sheet will be delivered. The old sheet will be collected on either the following Monday or Tuesday. If you are not in when we call to collect the diary sheet we will leave a Freepost envelope for you to post it back to us.

Prize draws:

Fortnightly Draw: Each time you return a diary sheet your own unique number will be entered into the fortnightly draw.

Monthly Draw: Each month you will be entered into the monthly draw for cash prizes.

Main Panel Draw: When you send in your final diary sheet in November you will be entered into the main panel prize draw with top cash prizes – so stay with us!

Prizes: The draws will take place ten days after the completion of the period in order to allow time for all the diary sheets to be returned. Prizes will be delivered the following week.

Helpline:

If you have any problems at all with the panel you can phone the helpline on 0234 751122 extn 3319. This will normally be an answering machine (24 hrs) you can leave your name, telephone number and respondent number and we will call you back or come and see you.

Holidays:

If you are going on holiday, it would be a big help if you can let us know (via the helpline). It will also stop us from putting mail through your door.

Thank you again for taking part in the study.

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Cranfield Institute of Technology
Cranfield Bedford MK43 0AL England
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International +44 234 751122
Telex 826559 CITMAN G
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Cranfield

MILTON KEYNES SHOPPING PANEL

QUESTIONNAIRE NO. 1

Thank you for agreeing to take part in the panel study. This is the first questionnaire about the three products. When we have processed these questionnaires you will be sent a FREE gift, and of course your continued participation in the panel ensures that you will be entered into all the FREE PRIZE DRAWS.

Instructions on how to answer the different types of question are given in the questionnaire. The questionnaire takes around 10 minutes to complete. Please don't spend too long on any of the questions. If you have any problems with the questionnaire you can telephone the help line number (given below) and we will arrange for an interviewer to call.

Please return this questionnaire in the freepost envelope provided.

Thank you again for your help.

Help Line Telephone Number 0234 751122 extn 3319.

MILTON KEYNES SHOPPING PANEL

QUESTIONNAIRE NO 1

1. Please tick the box which best describes how often you purchase the following products:-

	Never 1	Less than Monthly 2	About Monthly 3	About Fortnightly 4	About Weekly 5	More than Weekly 6
Breakfast Cereal	[]	[]	[]	[]	[]	[]
Paper Kitchen Towel	[]	[]	[]	[]	[]	[]
National Newspapers	[]	[]	[]	[]	[]	[]

2. Please write in the spaces your favourite brands of the following products:-

Breakfast Cereal ______________________
____
____

Paper Kitchen Towel ______________________
____
____

National Newspaper ______________________
____
____

3. When you do your shopping how important are environmental issues? *(circle the number closest to your opinion)*

1 — 2 — 3 — 4 — 5 — 6 — 7

Very important ... Not at all important

4. When buying the products, how committed are you to buying your favourite brands, rather than an alternative brand? *(Please circle the number on the scale which best reflects your opinion):-*

I am

5 — 4 — 3 — 2 — 1

Highly committed ... Not at all Committed

...to buying my favourite brand(s) of Breakfast Cereal.

I am

5 — 4 — 3 — 2 — 1

Highly committed ... Not at all Committed

...to buying my favourite brand(s) of Paper Kitchen Towel.

I am

5 — 4 — 3 — 2 — 1

Highly committed ... Not at all Committed

...to buying my favourite titles of National Newspaper.

5. When you try a different brand of the following products, what is most likely to influence your choice to try it (please tick one box for each product)?

	Breakfast Cereal	Kitchen Towel	Newspapers
Reduced Price	[]	[]	
Vouchers for Next Purchase	[]	[]	
TV Advertising	[]	[]	[]
Media Advertising	[]	[]	[]
Friends Recommendation	[]	[]	[]
Free to Enter Competition	[]	[]	[]
Other (please state)			
....	[]	[]	[]
....	[]	[]	[]

6. At which shop do you do your main shopping?

....

7. If you couldn't get your favourite brand(s) of breakfast cereal at the store you had gone to for them would you:-

- Happily buy a different brand ....[ ]1
- Reluctantly buy a different brand..................................[ ]2
- Not buy the product until the next time you shopped...............[ ]3
- Try a different shop..........................[ ]4
- Keep trying different shops until you got the brand you wanted..............................[ ]5

(please tick ONE of the options)

8. If you couldn't get your favourite brand(s) of Kitchen Towel at the store you had gone to for them would you:-

- Happily buy a different brand ....[ ]1
- Reluctantly buy a different brand..................................[ ]2
- Not buy the product until the next time you shopped...............[ ]3
- Try a different shop..........................[ ]4
- Keep trying different shops until you got the brand you wanted..............................[ ]5

(please tick ONE of the options)

9. If you couldn't get your favourite title(s) of Newspaper at the store you had gone to for them or they were not delivered (for some reason) would you:-

- Happily buy a different one.............[ ]1
- Reluctantly buy a different one....................................[ ]2
- Do without until the next time you wanted a paper ....[ ]3
- Try a different shop..........................[ ]4
- Keep trying different shops until you got the one you wanted................................[ ]5

(please tick ONE of the options)

SECTION B

In this section of the Questionnaire you are asked how strongly you agree or disagree with statements about the products. Please circle the number along the scale which is closest to your opinion.

1. I have a strong interest in:-

Breakfast Cereal	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree
Paper Kitchen Towel	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree
National newspapers	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree

2. I would choose the following very carefully:-

Breakfast Cereal	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree
Paper Kitchen Towel	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree
National newspapers	Strongly Agree 1 — 2 — 3 — 4 — 5 — 6 — 7 Strongly Disagree

3. Using the following products helps me to express my personality:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

4. Knowing whether or not a person uses the following tells a lot about that person:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

5. You can tell a lot about a person from which brand they use of the following:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

6. I would give myself great pleasure by purchasing:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

7. To buy the following would be like giving myself a present or treat:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

8. I believe that different brands of the following would give different amounts of pleasure:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

9. All brands of the following would not be equally enjoyable:-

Breakfast Cereal — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

National newspapers — 1 2 3 4 5 6 7 (Strongly Agree … Strongly Disagree)

10. No matter what brand you buy of the following you get the same pleasure:-

Breakfast Cereal — 7 6 5 4 3 2 1 (Strongly Agree … Strongly Disagree)

Paper Kitchen Towel — 7 6 5 4 3 2 1 (Strongly Agree … Strongly Disagree)

National newspapers — 7 6 5 4 3 2 1 (Strongly Agree … Strongly Disagree)

11. The following are basically useful products:-

Breakfast Cereal 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

Paper Kitchen Towel 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

National newspapers 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

12. When you buy the following it is not a big deal if you buy the wrong brand by mistake:-

Breakfast Cereal 7 6 5 4 3 2 1 (Strongly Agree — Strongly Disagree)

Paper Kitchen Towel 7 6 5 4 3 2 1 (Strongly Agree — Strongly Disagree)

National newspapers 7 6 5 4 3 2 1 (Strongly Agree — Strongly Disagree)

13 It is very annoying to buy any of the following which aren't right:-

Breakfast Cereal 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

Paper Kitchen Towel 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

National newspapers 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

14. A bad buy of the following could bring you trouble:-

Breakfast Cereal 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

Paper Kitchen Towel 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

National newspapers 1 2 3 4 5 6 7 (Strongly Agree — Strongly Disagree)

(MAIBSA22591)

MILTON KEYNES SHOPPING PANEL

SECTION C - GENERAL INFORMATION

This information will be treated as STRICTLY CONFIDENTIAL.

1. NAME: ____________

2. ADDRESS: ____________

____

____________ POSTCODE: ____________

3. OCCUPATION: ____________

5. AGE: ____________

6. SEX: ____________

7. OCCUPATION OF SPOUSE / PARTNER (Where Applicable): ____________

8. NUMBER OF CHILDREN (Under 18) LIVING AT HOME: ____________

9. TYPE OF DWELLING (eg. House, Bungalow, Flat etc.): ____________

10 NUMBER OF BEDROOMS: ____________

11. HOME TELEPHONE NUMBER: ____________

OFFICE USE: 0300

Respondent No: [| | |] SEG: [|]

Date: [| |] Interviewer: ____________

Notes: ____________

NATIONAL NEWSPAPERS

COMPLETE DURING PERIOD:

Title of Paper Bought or Delivered	Date	Shop Purchased From

COMPLETE AT END OF PERIOD:

If you changed from your regular brand of Newspaper during this period, what do you think influenced your decision?

Do you recall any advertising for Newspapers over the last two weeks? What do you remember?

Respondent No. 0077

Milton Keynes Panel
Shopping Diary

24th June - 7th July 1991

Please have this sheet ready for collection by 8th July 1991

This Weeks FREE prize draw:-

5 x £10 Marks & Spencers Vouchers

PLUS

Extra entry into the monthly draw free this period

Enquires to: David Walker
Cranfield School of Management
Cranfield Bedford MK43 0AL
Tel (0234) 751122 extn. 3319

(P 01)

PAPER KITCHEN TOWEL

COMPLETE DURING PERIOD:

Brand Bought	Date	Qty	Price	Size	Where Bought

COMPLETE AT END OF PERIOD:

If you changed from your regular brand of Kitchen Towel during this period, what do you think influenced your decision?

Do you recall any advertising for Paper Kitchen Towel over the last two weeks? What do you remember?

BREAKFAST CEREAL

COMPLETE DURING PERIOD:

Brand Bought	Date	Qty	Price	Size	Where Bought

COMPLETE AT END OF PERIOD:

If you changed from your regular brand of Breakfast Cereal during this period, what do you think influenced your decision?

Do you recall any advertising for Breakfast Cereal over the last two weeks? What do you remember?

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Cranfield

MILTON KEYNES PANEL

Questionnaire No. 2

This questionnaire uses a scale with seven positions. Please circle the number on each scale that best describes your opinion. For example, if you are asked to consider "buying your regular brand of washing powder in the next month" and you think that this is extremely unlikely, circle the number 1 on the scale. If you have no opinion either way, circle number 4, etc..

EXAMPLE

I will buy my regular brand of washing powder in the next month :-

Likely	7	6	5	4	3	2	1	Unlikely
	extremely	quite	slightly	neither	slightly	quite	extremely	

Please circle ONE number on EACH scale.

Please don't spend too long on this questionnaire - it should take no longer than 10 minutes to complete. If there are any questions which you don't think apply to you (for example, because you don't have children) then simply leave them out.

If you have any problems completing the questionnaire please call the helpline on 0234 751122 ext. 3319

Please return the questionnaire in the freepost envelope provided.

Thank you again for taking part

PART 1 - BREAKFAST CEREAL:

1. I will buy my regular brand(s) of Breakfast cereal in the next month:-

Likely |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Unlikely
extremely quite slightly neither slightly quite extremely

2. Buying My regular brand(s) of breakfast cereal in the next month is:-

Bad |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Good
extremely quite slightly neither slightly quite extremely

Beneficial |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Harmful
extremely quite slightly neither slightly quite extremely

Rewarding |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Punishing
extremely quite slightly neither slightly quite extremely

Unpleasant |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Pleasant
extremely quite slightly neither slightly quite extremely

3. Most people who are important to me think that I:-

Should Not |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Should

buy my regular brand(s) of breakfast cereal in the next month.

4. If I buy my regular brand(s) of breakfast cereal in the next month I will have a product which tastes good:-

Likely |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Unlikely
extremely quite slightly neither slightly quite extremely

5. Having a product which tastes good is:-

Bad |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Good
extremely quite slightly neither slightly quite extremely

6. If I buy my regular brand(s) of breakfast cereal in the next month I will get good value for money:-

Likely |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Unlikely
extremely quite slightly neither slightly quite extremely

7. My regular brand(s) of breakfast cereal being good value for money is:-

Trivial |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Important
extremely quite slightly neither slightly quite extremely

8. If I buy my regular brands of breakfast cereal in the next month I will get a healthy food for breakfast:-

Likely |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Unlikely
extremely quite slightly neither slightly quite extremely

9. Having a healthy breakfast food is:-

Bad |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Good
extremely quite slightly neither slightly quite extremely

10. My children think that I:-

Should Not |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Should

buy my regular brand(s) of breakfast cereal in the next month.

11. Generally speaking how much do you want to do what your children think that you should do?

Not at all |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Very much

12. My spouse/partner thinks I:-

Should Not 1 — 2 — 3 — 4 — 5 — 6 — 7 Should

buy my regular brand(s) of breakfast cereal in the next month.

13. Generally speaking how much do you want to do what your spouse/partner thinks that you should do?

Not at all 1 — 2 — 3 — 4 — 5 — 6 — 7 Very much

PART 2 - KITCHEN TOWEL

1. I will buy my regular brand(s) of Kitchen Towel in the next month:-

Likely 7 — 6 — 5 — 4 — 3 — 2 — 1 Unlikely
extremely quite slightly neither slightly quite extremely

2. Buying My regular brand(s) of Kitchen Towel in the next month is:-

Bad 1 — 2 — 3 — 4 — 5 — 6 — 7 Good
extremely quite slightly neither slightly quite extremely

Beneficial 7 — 6 — 5 — 4 — 3 — 2 — 1 Harmful
extremely quite slightly neither slightly quite extremely

Rewarding 7 — 6 — 5 — 4 — 3 — 2 — 1 Punishing
extremely quite slightly neither slightly quite extremely

Unpleasant 1 — 2 — 3 — 4 — 5 — 6 — 7 Pleasant
extremely quite slightly neither slightly quite extremely

3. Most people who are important to me think that I:-

Should Not 1 — 2 — 3 — 4 — 5 — 6 — 7 Should

buy my regular brand(s) of Kitchen Towel in the next month.

4. If I buy my regular brand(s) of Kitchen Towel in the next month I will have a product which matches the kitchen:-

Likely 7 — 6 — 5 — 4 — 3 — 2 — 1 Unlikely
extremely quite slightly neither slightly quite extremely

5. Having a product which matches the kitchen is:-

Bad 1 — 2 — 3 — 4 — 5 — 6 — 7 Good
extremely quite slightly neither slightly quite extremely

6. If I buy my regular brand(s) of Kitchen Towel in the next month it will be in stock where I do my main shopping:-

Likely 7 — 6 — 5 — 4 — 3 — 2 — 1 Unlikely
extremely quite slightly neither slightly quite extremely

7. My regular brand(s) of Kitchen Towel being in stock where I do my main shopping is:-

Bad 1 — 2 — 3 — 4 — 5 — 6 — 7 Good
extremely quite slightly neither slightly quite extremely

8. Conservationists think that I:-

Should Not 1 — 2 — 3 — 4 — 5 — 6 — 7 Should

buy my regular brand(s) of Kitchen Towel in the next month.

9. Generally speaking how much do you want to do what the conservationists think that you should do?

Not at all 1 — 2 — 3 — 4 — 5 — 6 — 7 Very much

PART 3 – NATIONAL NEWSPAPERS

1. I will buy my regular National Newspaper in the next month:–

Likely |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Unlikely
extremely quite slightly neither slightly quite extremely

2. Buying My regular National Newspaper in the next month is:–

Bad |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Good
extremely quite slightly neither slightly quite extremely

Beneficial |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Harmful
extremely quite slightly neither slightly quite extremely

Rewarding |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Punishing
extremely quite slightly neither slightly quite extremely

Unpleasant |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Pleasant
extremely quite slightly neither slightly quite extremely

3. Most people who are important to me think that I:–

Should Not |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Should
buy my regular National Newspaper in the next month.

4. If I buy my regular National Newspaper in the next month I will enjoy reading it:–

Likely |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Unlikely
extremely quite slightly neither slightly quite extremely

5. Having a paper which is enjoyable to read is:–

Bad |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Good
extremely quite slightly neither slightly quite extremely

6. If I buy my regular National Newspaper in the next month I will have a good excuse to relax:–

Likely |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Unlikely
extremely quite slightly neither slightly quite extremely

7. My regular National Newspaper being a good excuse to relax is:–

Bad |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Good
extremely quite slightly neither slightly quite extremely

8. If I buy my regular National Newspaper in the next month I be able to keep up with the news:–

Likely |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Unlikely
extremely quite slightly neither slightly quite extremely

9. Being able to keep up on the new is:–

Bad |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Good
extremely quite slightly neither slightly quite extremely

10. If I buy my regular National Newspaper in the next month I will be able to keep up with the sports results:–

Likely |—7—|—6—|—5—|—4—|—3—|—2—|—1—| Unlikely
extremely quite slightly neither slightly quite extremely

11. Being able to keep up with the sports results is:–

Bad |—1—|—2—|—3—|—4—|—5—|—6—|—7—| Good
extremely quite slightly neither slightly quite extremely

12. If I buy my regular National Newspaper in the next month it will be unbiased:-

Likely |_7_|_6_|_5_|_4_|_3_|_2_|_1_| Unlikely
extremely quite slightly neither slightly quite extremely

13. My regular National newspaper being unbiased is:-

Bad |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Good
extremely quite slightly neither slightly quite extremely

14. My parents think that I:-

Should Not |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Should

buy my regular National newspaper in the next month.

15. Generally speaking how much do you want to do what your parents think that you should do?

Not at all |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Very much

16. My spouse/partner thinks I:-

Should Not |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Should
buy my regular National newspaper in the next month.

17. Generally speaking how much do you want to do what your spouse/partner thinks that you should do?

Not at all |_1_|_2_|_3_|_4_|_5_|_6_|_7_| Very much

Thank you for completing this questionnaire.

Cranfield School of Management
Cranfield Institute of Technology
Cranfield Bedford MK43 0AL England
Telephone National Bedford (0234) 751122
International + 44 234 751122
Telex 826559 CITMAN G
Telefax (0234) 751806

Cranfield

Milton Keynes Shopping Panel

IMPORTANT INFORMATION FOR PARTICIPANTS

Dear Panel Member,

Please find enclosed the final diary sheet of the study together with a freepost envelope to return the old yellow sheet.

We will call to collect the blue sheet on Monday 11th or Tuesday 12th November. If you are not in when we call we will leave a freepost envelope for you to use as we have done previously. Please note that there are a few additional questions in the diary sheet this period: please complete these before returning the sheet.

I would like to take this opportunity to thank you for your help and patience with this study. It is only with your help that student studies such as this can be successful and that market research theory can be improved; thank you for taking part.

With Kind Regards,

David Walker

David Walker
Phd Student

PS. Don't forget that all final diary sheets that are returned will be entered in the prize draw for £300 CASH!

Cranfield School of Management
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International + 44 234 751122
Telex 826559 CITMAN G
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Cranfield

Milton Keynes Panel

Dear Panel Member,

I called at your house today to thank you personally for taking part in my study and to collect your final diary sheet; unfortunately, you were out when I called.

I would be most grateful if you would use the enclosed freepost envelope to return the diary sheet and additional questions. The sheet must be received by Monday 18th November 1991 in order to be included in the £300 prize draw.

If by any chance you still have any sheets from a previous period please include these in the envelope - they will all be used in the analysis of the study.

Thank you again for taking part, your help has been greatly appreciated.

With kind regards,

David Walker

David Walker
Phd student.

Appendix IV

- Preliminary Analysis of Main Survey

- Diary Sheet Code Frame Used for Brand Switching Factors
- Frequency Counts for Main Socio-Demographic Variables
- ANOVA for Main Survey Products

Appendix IV - Coding Frame Used for Brand Switching Motivates (Recorded on Diary Sheet)

1 None
2 Packaging / New Packaging type
3 Try New Product
4 Price / Cheaper
5 Location of Store / More Convenient / Closer
6 Product Quality / Features of Product / Better Product
7 Vouchers on Product
8 Free Gift With Product
9 (Missing)
10 Variety / Impulse Buy / Affective Choice (felt like it)
11 First Choice out of Stock / Favourite not Available
12 Children's Influence
13 T.V. Advertising
14 Changed Store Because not satisfied with Store / New Store Doesn't Have Brand
15 Husband / Wife / Partner's Preferences
16 Health Reasons / Healthier food
17 Special Circumstances / (Holiday, Guests, Weather)
18 Competition / Prize Draw
19 Special Offer / Two for One / Multibuy Discount
20 Environment / Green Issues / Conservation Reasons
21 Recommendation / Friends Advice

Appendix IV - Frequency Counts for Main Socio-Demographic Variables - Main Survey

```
-> FREQUENCIES
->   VARIABLES=var025 var026 var027 var028 var029 var030  .
There are 1,044,600 bytes of memory available.
The largest contiguous area has 1,044,600 bytes.
Memory allows a total of 37,307 values accumulated across all variables.
There may be up to 4,663 value labels for each variable.
```

VAR025 Age

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
16 to 24	2.00	21	4.6	4.6	4.6
25 to 34	3.00	195	42.8	42.8	47.4
35 to 44	4.00	118	25.9	25.9	73.2
45 to 54	5.00	55	12.1	12.1	85.3
55 to 64	6.00	19	4.2	4.2	89.5
65+	7.00	48	10.5	10.5	100.0
	Total	456	100.0	100.0	

Valid cases 456 Missing cases 0

- -

VAR026 Sex

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1.00	100	21.9	21.9	21.9
Female	2.00	356	78.1	78.1	100.0
	Total	456	100.0	100.0	

Valid cases 456 Missing cases 0

VAR027 No. Child

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None	1.00	192	42.1	42.1	42.1
1 Child	2.00	100	21.9	21.9	64.0
2 Children	3.00	122	26.8	26.8	90.8
3 Children	4.00	33	7.2	7.2	98.0
4 Children	5.00	3	.7	.7	98.7
5 Children	6.00	6	1.3	1.3	100.0
	Total	456	100.0	100.0	

Valid cases 456 Missing cases 0

Appendix IV - Frequency Counts for Main Socio-Demographic Variables - Main Survey (cont.)

- -

VAR028 Dwelling

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	398	87.3	87.3	87.3
	2.00	13	2.9	2.9	90.1
	3.00	18	3.9	3.9	94.1
	4.00	24	5.3	5.3	99.3
	5.00	3	.7	.7	100.0
	Total	456	100.0	100.0	

Valid cases 456 Missing cases 0

VAR029 No. Beds

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
1 Bed	1.00	11	2.4	2.4	2.4
2 Bed	2.00	97	21.3	21.3	23.7
3 Bed	3.00	244	53.5	53.5	77.2
4 Bed	4.00	96	21.1	21.1	98.2
5 Bed	5.00	5	1.1	1.1	99.3
6 Bed	6.00	3	.7	.7	100.0
	Total	456	100.0	100.0	

Valid cases 456 Missing cases 0

- -

VAR030 SEG

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
A	1.00	8	1.8	1.8	1.8
B	2.00	79	17.3	17.4	19.2
C1	3.00	184	40.4	40.6	59.8
C2	4.00	111	24.3	24.5	84.3
D	5.00	52	11.4	11.5	95.8
E	6.00	19	4.2	4.2	100.0
	.00	3	.7	Missing	
	Total	456	100.0	100.0	

Valid cases 453 Missing cases 3

Preceding task required 4.56 seconds elapsed.

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey

```
-> ONEWAY
->    bhed brisk bsign phed psign putil var011 var012 BY var033(1 3)
->    /RANGES=LSD
->    /HARMONIC NONE
->    /STATISTICS HOMOGENEITY
->    /FORMAT NOLABELS
->    /MISSING ANALYSIS .

ONEWAY problem requires 1500 bytes of memory.

There are 1,042,512 bytes of memory available.
The largest contiguous area has 1,042,512 bytes.

                    - - - - -  O N E W A Y  - - - - -

    Variable  BHED
 By Variable  VAR033      PROD

                              Analysis of Variance

                                 Sum of         Mean           F       F
      Source            D.F.    Squares       Squares        Ratio   Prob.

Between Groups            2     257.7564      128.8782      67.8713   .0000
Within Groups           454     862.0836        1.8989
Total                   456    1119.8400

Levene Test for Homogeneity of Variances

    Statistic    df1    df2       2-tail Sig.
      2.0338      2     454          .132

                    - - - - -  O N E W A Y  - - - - -

    Variable  BHED
 By Variable  VAR033      PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= .9744 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                           G G G
                           r r r
                           p p p

                           3 2 1
     Mean      VAR033

     2.7968    Grp 3
     3.0113    Grp 2
     4.5522    Grp 1       * *
```

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

----- O N E W A Y -----

Variable BRISK
By Variable VAR033 PROD

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	136.9921	68.4961	29.6454	.0000
Within Groups	454	1048.9729	2.3105		
Total	456	1185.9650			

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1.4087	2	454	.246

----- O N E W A Y -----

Variable BRISK
By Variable VAR033 PROD

Multiple Range Tests: LSD test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= 1.0748 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE: 2.78

(*) Indicates significant differences which are shown in the lower triangle

Mean	VAR033	Grp 3	Grp 2	Grp 1
3.5479	Grp 3			
3.7533	Grp 2			
4.8483	Grp 1	*	*	

----- O N E W A Y -----

Variable BSIGN
By Variable VAR033 PROD

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	415.3261	207.6631	57.3839	.0000
Within Groups	454	1642.9539	3.6188		
Total	456	2058.2801			

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
.4350	2	454	.648

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

- - - - - O N E W A Y - - - - -

```
     Variable  BSIGN
  By Variable  VAR033      PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.3451 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                          G G G
                          r r r
                          p p p

                          3 2 1
    Mean      VAR033

    2.9726    Grp 3
    4.8701    Grp 2       *
    5.1716    Grp 1       *
```

- - - - - O N E W A Y - - - - -

```
     Variable  PHED
  By Variable  VAR033      PROD
```

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	116.8639	58.4319	25.7239	.0000
Within Groups	454	1031.2620	2.2715		
Total	456	1148.1258			

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
5.4727	2	454	.004

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

----- O N E W A Y -----

```
      Variable  PHED
   By Variable  VAR033       PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.0657 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                          G G G
                          r r r
                          p p p

                          3 2 1
    Mean      VAR033

    4.6130    Grp 3
    5.4802    Grp 2       *
    5.8619    Grp 1       * *
```

----- O N E W A Y -----

```
      Variable  PSIGN
   By Variable  VAR033       PROD
```

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	286.9748	143.4874	40.1075	.0000
Within Groups	454	1624.2156	3.5776		
Total	456	1911.1904			

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
.9733	2	454	.379

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

```
                  - - - - -  O N E W A Y  - - - - -

     Variable  PSIGN
  By Variable  VAR033      PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.3375 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                        G G G
                        r r r
                        p p p

                        3 1 2
    Mean       VAR033

    3.6575     Grp 3
    5.3433     Grp 1    *
    5.3672     Grp 2    *

                  - - - - -  O N E W A Y  - - - - -


     Variable  PUTIL
  By Variable  VAR033      PROD

                                  Analysis of Variance

                                  Sum of        Mean          F       F
        Source          D.F.     Squares       Squares      Ratio   Prob.

Between Groups            2       62.5272      31.2636    11.0533   .0000
Within Groups           454     1284.1161       2.8284
Total                   456     1346.6433


Levene Test for Homogeneity of Variances

    Statistic    df1     df2        2-tail Sig.
      6.6235      2      454          .001

                  - - - - -  O N E W A Y  - - - - -


     Variable  PUTIL
  By Variable  VAR033      PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.1892 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                        G G G
                        r r r
                        p p p

                        1 2 3
    Mean       VAR033

    2.3507     Grp 1
    2.7910     Grp 2    *
    3.2945     Grp 3    * *
```

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

```
                    - - - - -  O N E W A Y  - - - - -

     Variable  VAR011      PI
  By Variable  VAR033      PROD

                              Analysis of Variance

                                 Sum of          Mean             F       F
       Source           D.F.    Squares         Squares         Ratio   Prob.

Between Groups             2     132.4088        66.2044       23.9628   .0000
Within Groups            454    1254.3133         2.7628
Total                    456    1386.7221

Levene Test for Homogeneity of Variances

    Statistic     df1     df2         2-tail Sig.
      .3504        2      454            .705

                    - - - - -  O N E W A Y  - - - - -

     Variable  VAR011      PI
  By Variable  VAR033      PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.1753 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                        G G G
                        r r r
                        p p p

                        3 2 1
     Mean       VAR033

     3.0137     Grp 3
     3.7345     Grp 2   *
     4.3881     Grp 1   * *
```

Appendix IV - ANOVA for Involvement Constructs by Product - Main Survey (cont.)

```
                    - - - - -  O N E W A Y  - - - - -

     Variable  VAR012     BI
  By Variable  VAR033     PROD

                               Analysis of Variance

                                  Sum of         Mean          F      F
       Source            D.F.    Squares        Squares      Ratio  Prob.

Between Groups             2     210.8574      105.4287     41.3382  .0000
Within Groups            454    1157.8778        2.5504
Total                    456    1368.7352

Levene Test for Homogeneity of Variances

    Statistic    df1    df2        2-tail Sig.
      .0722       2     454          .930

                    - - - - -  O N E W A Y  - - - - -

     Variable  VAR012     BI
  By Variable  VAR033     PROD

Multiple Range Tests:  LSD test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= 1.1292 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE: 2.78

   (*) Indicates significant differences which are shown in the lower triangle

                         G G G
                         r r r
                         p p p

                         3 2 1
     Mean      VAR033

     2.4315    Grp 3
     2.6328    Grp 2
     4.0224    Grp 1     * *

Preceding task required 5.54 seconds elapsed.
```

Appendix V

- LISREL Output For Involvement /
Brand Support Models

- Full Model Estimated for All Products Using Weighted Least Squares
- Full Model Estimated for All Products Using Maximum Likelihood
- Simplified Model Estimated for All Products Using Weighted Least Squares
- Simplified Model Estimated for Newspapers Using Maximum Likelihood
- Simplified Model Estimated for Cereals Using Maximum Likelihood
- Simplified Model Estimated for Kitchen Towels Using Maximum Likelihood

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares

```
1                              DOS - L I S R E L  7.16
0                                        BY
0                            KARL G JORESKOG AND DAG SORBOM


                        This program is published exclusively by

                               SCIENTIFIC SOFTWARE, Inc.
                                   1369 Neitzel Road
                            Mooresville, Indiana 46158, U.S.A.
                                    (317)-831-6336

     Copyright by Scientific Software, Inc. (a Michigan corporation), 1981-89.
              Partial copyright by Microsoft Corporation, 1984-1989.
                                 All rights reserved.
0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
 DA NI=17 NO=466   MA=CM
 CM FI=C:\phd\lisrel\ALL8.CMT
 AC FI=C:\phd\lisrel\ALL8.ACP
 SE
 3 4 1 2 17 5 6 8 9 13 7 10 11 12 14 15 16/
 MO NY=5 NX=12 NK=6 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PS' 'PH' 'PU' 'BS' 'BH' 'BR' /
 PA LX
 1(0 0 0 0 0 0) 1(1 0 0 0 0 0) 1(0 0 0 0 0 0) 1(0 1 0 0 0 0) 3(0 0 0 0 0 0) 2(0 0 0 0 1
0) 1(0 0 0 0 0 0) 2(0 0 0 0 0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,4) GA(1,5) GA(1,6) GA(2,1) GA(2,2) GA(2,3) GA(3,1) GA(3,2) GA(3,3) GA(3,4)
GA(3,5) GA(3,6)
 FI GA(4,1)-GA(4,6)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5 TD 5 TD 6
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(3,2) LX(5,3) LX(6,4) LX(7,5) LX(10,6)
 VA .046 TE 1
 VA .137 TE 2
 VA .080 TD 5
 VA .031 TD 6
 VA .002 TE 5
 OU ALL AD=30 ME=WL
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0                        NUMBER OF INPUT VARIABLES 17
0                        NUMBER OF Y - VARIABLES    5
0                        NUMBER OF X - VARIABLES   12
0                        NUMBER OF ETA - VARIABLES  4
0                        NUMBER OF KSI - VARIABLES  6
0                        NUMBER OF OBSERVATIONS   466
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0        COVARIANCE MATRIX TO BE ANALYZED
0               PINV        BINV       BCOM1       BCOM2        BSUP         PS1
+          ----------  ----------  ----------  ----------  ----------  ----------
     PINV     .932
     BINV     .613        .918
    BCOM1     .402        .469        .865
    BCOM2     .298        .421        .473        .878
     BSUP    -.100       -.106       -.135       -.121        .208
      PS1     .353        .282        .256        .251       -.117        .854
      PS2     .381        .311        .267        .251       -.128        .649
      PH1     .512        .370        .323        .275       -.111        .512
      PH2     .258        .215        .211        .144       -.074        .361
      PU1     .166        .195        .073       -.023        .027        .102
      BS1     .341        .320        .281        .245       -.111        .613
      BH1     .249        .280        .263        .233       -.059        .333
      BH2     .197        .286        .245        .253       -.029        .245
      BH3     .280        .391        .302        .344       -.050        .121
      BR1     .267        .379        .355        .412       -.060        .254
      BR2     .424        .582        .449        .435       -.082        .267
      BR3     .318        .382        .272        .286       -.013        .233
0        COVARIANCE MATRIX TO BE ANALYZED
0                PS2         PH1         PH2         PU1         BS1         BH1
+          ----------  ----------  ----------  ----------  ----------  ----------
      PS2     .891
      PH1     .488        .884
      PH2     .355        .488        .759
      PU1     .095        .164        .055        .906
      BS1     .744        .454        .318        .065        .893
      BH1     .367        .316        .254        .093        .351        .915
      BH2     .278        .210        .130       -.005        .300        .442
      BH3     .164        .170        .103        .011        .180        .362
      BR1     .272        .312        .174        .032        .284        .273
      BR2     .328        .376        .191        .244        .339        .316
      BR3     .218        .308        .234        .141        .229        .126
0        COVARIANCE MATRIX TO BE ANALYZED
0                BH2         BH3         BR1         BR2         BR3
+          ----------  ----------  ----------  ----------  ----------
      BH2     .905
      BH3     .474        .882
      BR1     .325        .357        .917
      BR2     .360        .437        .425        .920
      BR3     .119        .211        .307        .481        .877
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0PARAMETER SPECIFICATIONS
0        LAMBDA Y
0                 PI          BI        BCOM     BND SUP
+          ----------  ----------  ----------  ----------
     PINV          0           0           0           0
     BINV          0           0           0           0
    BCOM1          0           0           0           0
    BCOM2          0           0           1           0
     BSUP          0           0           0           0
0        LAMBDA X
0                 PS          PH          PU          BS          BH          BR
+          ----------  ----------  ----------  ----------  ----------  ----------
      PS1          0           0           0           0           0           0
      PS2          2           0           0           0           0           0
      PH1          0           0           0           0           0           0
      PH2          0           3           0           0           0           0
      PU1          0           0           0           0           0           0
      BS1          0           0           0           0           0           0
      BH1          0           0           0           0           0           0
      BH2          0           0           0           0           4           0
      BH3          0           0           0           0           5           0
      BR1          0           0           0           0           0           0
      BR2          0           0           0           0           0           6
      BR3          0           0           0           0           0           7
0        BETA
0                 PI          BI        BCOM     BND SUP
+          ----------  ----------  ----------  ----------
       PI          0           0           0           0
       BI          8           0           0           0
     BCOM          0           9           0           0
  BND SUP          0           0          10           0
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         GAMMA
0                   PS          PH          PU          BS          BH          BR
+
        PI          11          12          13           0           0           0
        BI           0           0           0          14          15          16
      BCOM           0           0           0           0           0           0
   BND SUP           0           0           0           0           0           0
0        PHI
0                   PS          PH          PU          BS          BH          BR
+
        PS          17
        PH          18          19
        PU          20          21          22
        BS          23          24          25          26
        BH          27          28          29          30          31
        BR          32          33          34          35          36          37
0        PSI
0                   PI          BI        BCOM     BND SUP
+
                    38          39          40          41
0        THETA EPS
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+
                     0           0          42          43           0
0        THETA DELTA
0                  PS1         PS2         PH1         PH2         PU1         BS1
+
                    44          45          46          47           0           0
0        THETA DELTA
0                  BH1         BH2         BH3         BR1         BR2         BR3
+
                    48          49          50          51          52          53
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0INITIAL ESTIMATES (TSLS)
0        LAMBDA Y
0                   PI          BI        BCOM     BND SUP
+
      PINV       1.000        .000        .000        .000
      BINV        .000       1.000        .000        .000
     BCOM1        .000        .000       1.000        .000
     BCOM2        .000        .000        .967        .000
      BSUP        .000        .000        .000       1.000
0        LAMBDA X
0                   PS          PH          PU          BS          BH          BR
+
       PS1       1.000        .000        .000        .000        .000        .000
       PS2       1.012        .000        .000        .000        .000        .000
       PH1        .000       1.000        .000        .000        .000        .000
       PH2        .000        .682        .000        .000        .000        .000
       PU1        .000        .000       1.000        .000        .000        .000
       BS1        .000        .000        .000       1.000        .000        .000
       BH1        .000        .000        .000        .000       1.000        .000
       BH2        .000        .000        .000        .000        .983        .000
       BH3        .000        .000        .000        .000        .867        .000
       BR1        .000        .000        .000        .000        .000       1.000
       BR2        .000        .000        .000        .000        .000       1.198
       BR3        .000        .000        .000        .000        .000        .790
0        BETA
0                   PI          BI        BCOM     BND SUP
+
        PI        .000        .000        .000        .000
        BI        .053        .000        .000        .000
      BCOM        .000        .824        .000        .000
   BND SUP        .000        .000       -.173        .000
0        GAMMA
0                   PS          PH          PU          BS          BH          BR
+
        PI        .119        .554        .095        .000        .000        .000
        BI        .000        .000        .000       -.000       -.000       1.059
      BCOM        .000        .000        .000        .000        .000        .000
   BND SUP        .000        .000        .000        .000        .000        .000
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI          BI         BCOM     BND SUP          PS          PH
+          --------    --------    --------    --------    --------    --------
       PI      .886
       BI      .278        .745
     BCOM      .229        .613        .778
  BND SUP     -.040       -.106       -.134        .199
       PS      .365        .294        .242       -.042        .642
       PH      .469        .357        .294       -.051        .505        .716
       PU      .166        .159        .131       -.023        .098        .137
       BS      .340        .320        .263       -.046        .675        .458
       BH      .173        .327        .269       -.047        .267        .249
       BR      .218        .444        .366       -.063        .259        .314
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PU          BS          BH          BR
+          --------    --------    --------    --------
       PU      .826
       BS      .065        .862
       BH      .036        .295        .471
       BR      .142        .285        .300        .408
0        PSI
0                 PI          BI        BCOM     BND SUP
+          --------    --------    --------    --------
               .567        .260        .273        .176
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+          --------    --------    --------    --------    --------
               .046        .137        .376        .421        .002
0        THETA DELTA
0                PS1         PS2         PH1         PH2         PU1         BS1
+          --------    --------    --------    --------    --------    --------
               .213        .234        .168        .426        .080        .031
0        THETA DELTA
0                BH1         BH2         BH3         BR1         BR2         BR3
+          --------    --------    --------    --------    --------    --------
               .443        .449        .527        .508        .334        .622
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV       BCOM1       BCOM2        BSUP
+          --------    --------    --------    --------    --------
               .951        .845        .674        .634        .990
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PS1         PS2         PH1         PH2         PU1         BS1
+          --------    --------    --------    --------    --------    --------
               .751        .737        .810        .439        .912        .965
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                BH1         BH2         BH3         BR1         BR2         BR3
+          --------    --------    --------    --------    --------    --------
               .515        .504        .402        .446        .637        .291
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI          BI        BCOM     BND SUP
+          --------    --------    --------    --------
               .360        .651        .649        .117
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS    .747
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY    ABSCISSA           SLOPE               FUNCTION
0             1    0     .00000000D+00     -.36276964D+01       .22076486D+01
                   1     .10000000D+01     -.39894863D-01       .41126127D+00
0             2    0     .00000000D+00     -.10114100D+00       .41126127D+00
                   1     .10000000D+01      .10672462D+00       .42256424D+00
                   2     .48656916D+00      .12822222D-01       .39113407D+00
                   3     .43182432D+00      .15543474D-02       .39073908D+00
0             3    0     .00000000D+00     -.16494684D-01       .39073908D+00
                   1     .43182432D+00     -.81572257D-02       .38538669D+00
                   2     .85431382D+00      .86333020D-03       .38381359D+00
0             4    0     .00000000D+00     -.66323543D-02       .38381359D+00
                   1     .85431382D+00     -.20164779D-02       .38009449D+00
                   2     .12275268D+01      .11263520D-03       .37973699D+00
0             5    0     .00000000D+00     -.27114431D-02       .37973699D+00
                   1     .12275268D+01      .87539152D-03       .37857087D+00
                   2     .92794048D+00     -.35771084D-04       .37844570D+00
0             6    0     .00000000D+00     -.11867345D-02       .37844570D+00
                   1     .92794048D+00     -.31927969D-03       .37774562D+00
```

```
                 2    .12694828D+01      .49264226D-05      .37769185D+00
0          7     0    .00000000D+00     -.52043110D-03      .37769185D+00
                 1    .12694828D+01      .34144533D-04      .37738354D+00
0          8     0    .00000000D+00     -.20508556D-03      .37738354D+00
                 1    .12694828D+01     -.23622908D-04      .37723837D+00
                 2    .14347448D+01     -.22818536D-08      .37723642D+00
0          9     0    .00000000D+00     -.91387200D-04      .37723642D+00
                 1    .14347448D+01      .38485938D-04      .37719886D+00
                 2    .10095799D+01      .34235261D-06      .37719060D+00
0         10     0    .00000000D+00     -.43905005D-04      .37719060D+00
                 1    .10095799D+01     -.18274473D-04      .37715922D+00
                 2    .17294066D+01     -.44170387D-07      .37715263D+00
0         11     0    .00000000D+00     -.15383439D-04      .37715263D+00
                 1    .17294066D+01      .11951071D-05      .37714036D+00
0         12     0    .00000000D+00     -.63905041D-05      .37714036D+00
                 1    .17294066D+01      .64293106D-07      .37713490D+00
0         13     0    .00000000D+00     -.25476638D-05      .37713490D+00
                 1    .17294066D+01     -.13847212D-06      .37713258D+00
0         14     0    .00000000D+00     -.83692182D-06      .37713258D+00
                 1    .17294066D+01     -.62955823D-07      .37713180D+00
0         15     0    .00000000D+00     -.36432497D-06      .37713180D+00
                 1    .17294066D+01      .14504709D-07      .37713150D+00
0         16     0    .00000000D+00     -.14076508D-06      .37713150D+00
                 1    .17294066D+01     -.16166618D-07      .37713136D+00
                 2    .19537967D+01     -.18795793D-11      .37713136D+00
0         17     0    .00000000D+00     -.42083901D-07      .37713136D+00
                 1    .19537967D+01     -.47692606D-08      .37713131D+00
                 2    .22035154D+01      .14948000D-12      .37713131D+00
0         18     0    .00000000D+00     -.17240068D-07      .37713131D+00
                 1    .22035154D+01     -.13991077D-08      .37713129D+00
0         19     0    .00000000D+00     -.63693928D-08      .37713129D+00
                 1    .22035154D+01      .18859990D-08      .37713129D+00
                 2    .17001077D+01      .32142122D-13      .37713129D+00
0         20     0    .00000000D+00     -.17989271D-08      .37713129D+00
                 1    .17001077D+01     -.10666354D-09      .37713128D+00
0         21     0    .00000000D+00     -.62004984D-09      .37713128D+00
                 1    .17001077D+01     -.32173617D-10      .37713128D+00
0         22     0    .00000000D+00     -.17391228D-09      .37713128D+00
                 1    .17001077D+01      .55793900D-11      .37713128D+00
0         23     0    .00000000D+00     -.35808400D-10      .37713128D+00
                 1    .17001077D+01      .11484943D-10      .37713128D+00
                 2    .12872454D+01      .35774243D-16      .37713128D+00
0         24     0    .00000000D+00     -.48181307D-11      .37713128D+00
                 1    .12872454D+01     -.48560614D-12      .37713128D+00
                 2    .14315248D+01      .69078781D-19      .37713128D+00
0         25     0    .00000000D+00     -.88991090D-12      .37713128D+00
                 1    .14315248D+01     -.11150281D-12      .37713128D+00
                 2    .16365831D+01      .60119381D-19      .37713128D+00
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0LISREL ESTIMATES (WEIGHTED LEAST SQUARES)
0        LAMBDA Y
0                  PI          BI        BCOM     BND SUP
+             --------    --------    --------    --------
      PINV       1.000        .000        .000        .000
      BINV        .000       1.000        .000        .000
     BCOM1        .000        .000       1.000        .000
     BCOM2        .000        .000       1.023        .000
      BSUP        .000        .000        .000       1.000
0        LAMBDA X
0                  PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PS1       1.000        .000        .000        .000        .000        .000
       PS2       1.146        .000        .000        .000        .000        .000
       PH1        .000       1.000        .000        .000        .000        .000
       PH2        .000        .628        .000        .000        .000        .000
       PU1        .000        .000       1.000        .000        .000        .000
       BS1        .000        .000        .000       1.000        .000        .000
       BH1        .000        .000        .000        .000       1.000        .000
       BH2        .000        .000        .000        .000       1.166        .000
       BH3        .000        .000        .000        .000       1.195        .000
       BR1        .000        .000        .000        .000        .000       1.000
       BR2        .000        .000        .000        .000        .000       1.211
       BR3        .000        .000        .000        .000        .000        .828
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         BETA
0                PI          BI        BCOM     BND SUP
+
         PI     .000        .000        .000        .000
         BI     .247        .000        .000        .000
       BCOM     .000        .871        .000        .000
    BND SUP     .000        .000       -.217        .000
0         GAMMA
0                PS          PH          PU          BS          BH          BR
+
         PI     .218        .647        .034        .000        .000        .000
         BI     .000        .000        .000       -.010        .087        .754
       BCOM     .000        .000        .000        .000        .000        .000
    BND SUP     .000        .000        .000        .000        .000        .000
0         COVARIANCE MATRIX OF ETA AND KSI
0                PI          BI        BCOM     BND SUP          PS          PH
+
         PI     .751
         BI     .472        .575
       BCOM     .411        .501        .494
    BND SUP    -.089       -.109       -.107        .141
         PS     .376        .373        .325       -.071        .517
         PH     .532        .474        .413       -.090        .406        .680
         PU     .096        .131        .114       -.025        .043        .098
         BS     .413        .423        .368       -.080        .574        .444
         BH     .264        .350        .304       -.066        .276        .315
         BR     .355        .487        .424       -.092        .347        .424
0         COVARIANCE MATRIX OF ETA AND KSI
0                PU          BS          BH          BR
+
         PU     .669
         BS     .034        .767
         BH     .013        .319        .396
         BR     .141        .399        .335        .496
0         PSI
0                PI          BI        BCOM     BND SUP
+
                .322        .065        .058        .117
0         THETA EPS
0              PINV        BINV       BCOM1       BCOM2        BSUP
+
                .046        .137        .331        .382        .002
0         THETA DELTA
0               PS1         PS2         PH1         PH2         PU1         BS1
+
                .237        .081        .135        .376        .080        .031
0         THETA DELTA
0               BH1         BH2         BH3         BR1         BR2         BR3
+
                .438        .257        .260        .363        .136        .431
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0              PINV        BINV       BCOM1       BCOM2        BSUP
+
                .942        .808        .599        .575        .986
0         TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0         SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               PS1         PS2         PH1         PH2         PU1         BS1
+
                .686        .894        .834        .416        .893        .961
0         SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               BH1         BH2         BH3         BR1         BR2         BR3
+
                .475        .677        .685        .578        .842        .441
0         TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS  1.000
0         SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                PI          BI        BCOM     BND SUP
+
                .571        .887        .882        .165
0         TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .900

0          CHI-SQUARE WITH 100 DEGREES OF FREEDOM =   350.73 (P = .000)
0                       GOODNESS OF FIT INDEX = .920
                ADJUSTED GOODNESS OF FIT INDEX = .877
                     ROOT MEAN SQUARE RESIDUAL =     .091
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
0        FITTED COVARIANCE MATRIX
0               PINV        BINV       BCOM1       BCOM2        BSUP         PS1
+          ________    ________    ________    ________    ________    ________
     PINV       .797
     BINV       .472        .712
    BCOM1       .411        .501        .825
    BCOM2       .421        .512        .506        .899
     BSUP      -.089       -.109       -.107       -.110        .143
      PS1       .376        .373        .325        .332       -.071        .753
      PS2       .432        .428        .373        .381       -.081        .592
      PH1       .532        .474        .413        .422       -.090        .406
      PH2       .334        .298        .259        .265       -.056        .255
      PU1       .096        .131        .114        .117       -.025        .043
      BS1       .413        .423        .368        .377       -.080        .574
      BH1       .264        .350        .304        .311       -.066        .276
      BH2       .308        .408        .355        .363       -.077        .322
      BH3       .316        .418        .364        .372       -.079        .330
      BR1       .355        .487        .424        .434       -.092        .347
      BR2       .430        .590        .513        .525       -.111        .421
      BR3       .294        .403        .351        .359       -.076        .288
0        FITTED COVARIANCE MATRIX
0                PS2         PH1         PH2         PU1         BS1         BH1
+          ________    ________    ________    ________    ________    ________
      PS2       .760
      PH1       .465        .815
      PH2       .292        .427        .645
      PU1       .049        .098        .061        .749
      BS1       .658        .444        .279        .034        .798
      BH1       .316        .315        .198        .013        .319        .834
      BH2       .369        .367        .231        .015        .372        .462
      BH3       .378        .377        .237        .015        .382        .474
      BR1       .398        .424        .267        .141        .399        .335
      BR2       .482        .514        .323        .171        .483        .406
      BR3       .330        .351        .221        .117        .330        .278
0        FITTED COVARIANCE MATRIX
0                BH2         BH3         BR1         BR2         BR3
+          ________    ________    ________    ________    ________
      BH2       .796
      BH3       .552        .826
      BR1       .391        .401        .859
      BR2       .473        .485        .601        .863
      BR3       .324        .332        .411        .497        .771
0        FITTED RESIDUALS
0               PINV        BINV       BCOM1       BCOM2        BSUP         PS1
+          ________    ________    ________    ________    ________    ________
     PINV       .135
     BINV       .141        .206
    BCOM1      -.010       -.031        .040
    BCOM2      -.123       -.091       -.033       -.022
     BSUP      -.011        .003       -.027       -.011        .065
      PS1      -.024       -.091       -.069       -.082       -.046        .101
      PS2      -.050       -.117       -.105       -.130       -.047        .057
      PH1      -.020       -.104       -.090       -.148       -.022        .106
      PH2      -.076       -.083       -.049       -.121       -.018        .105
      PU1       .070        .064       -.041       -.139        .052        .059
      BS1      -.073       -.103       -.087       -.132       -.031        .039
      BH1      -.016       -.070       -.041       -.078        .007        .057
      BH2      -.112       -.121       -.110       -.110        .048       -.076
      BH3      -.035       -.027       -.062       -.028        .029       -.209
      BR1      -.088       -.108       -.069       -.022        .032       -.093
      BR2      -.005       -.008       -.064       -.090        .029       -.153
      BR3       .024       -.021       -.079       -.073        .063       -.055
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         FITTED RESIDUALS
0               PS2         PH1         PH2         PU1         BS1         BH1
+          ________    ________    ________    ________    ________    ________
      PS2      .132
      PH1      .022        .069
      PH2      .063        .061        .114
      PU1      .045        .066       -.007        .157
      BS1      .086        .010        .038        .031        .095
      BH1      .051        .001        .056        .081        .032        .081
      BH2     -.091       -.158       -.101       -.020       -.072       -.020
      BH3     -.214       -.207       -.133       -.004       -.202       -.112
      BR1     -.126       -.112       -.093       -.110       -.115       -.062
      BR2     -.154       -.138       -.131        .073       -.144       -.090
      BR3     -.111       -.043        .013        .024       -.101       -.152
0         FITTED RESIDUALS
0               BH2         BH3         BR1         BR2         BR3
+          ________    ________    ________    ________    ________
      BH2      .108
      BH3     -.079        .056
      BR1     -.066       -.044        .058
      BR2     -.114       -.048       -.175        .057
      BR3     -.205       -.120       -.104       -.016        .106
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =     -.214
   MEDIAN FITTED RESIDUAL =     -.041
  LARGEST FITTED RESIDUAL =      .206
-STEMLEAF PLOT
 -20|49752
 -18|
 -16|5
 -14|843284
 -12|98321063110
 -10|75422210008544311
 - 8|331110008732
 - 6|998663320996422
 - 4|5098764311
 - 2|531187742221000
 - 0|8661108754
   0|13703
   2|2449912289
   4|058126677789
   6|133456903
   8|1165
  10|156684
  12|25
  14|17
  16|
  18|
  20|6
0         STANDARDIZED RESIDUALS
0              PINV        BINV       BCOM1       BCOM2        BSUP         PS1
+          ________    ________    ________    ________    ________    ________
     PINV    13.827
     BINV     4.328      22.378
    BCOM1     -.323      -1.068       5.269
    BCOM2    -3.907      -3.287      -1.530      -2.602
     BSUP     -.611        .162      -2.203       -.825      23.406
      PS1     -.761      -2.765      -2.359      -2.699      -2.421      12.577
      PS2    -1.669      -3.744      -3.579      -4.508      -2.613       2.369
      PH1     -.770      -3.284      -3.387      -4.633      -1.218       4.266
      PH2    -2.613      -2.772      -1.769      -3.889       -.973       3.388
      PU1     2.223       1.659      -1.112      -4.139       2.428       1.982
      BS1    -2.371      -3.352      -2.964      -4.788      -1.707       1.780
      BH1     -.417      -1.986      -1.192      -2.312        .390       1.654
      BH2    -3.081      -3.365      -3.301      -3.710       2.727      -2.521
      BH3    -1.069       -.834      -1.904      -1.018       1.831      -7.018
      BR1    -2.320      -3.183      -2.130       -.807       1.993      -2.856
      BR2     -.160       -.269      -2.318      -3.232       2.061      -5.221
      BR3      .689       -.685      -2.427      -2.314       3.642      -1.628
```

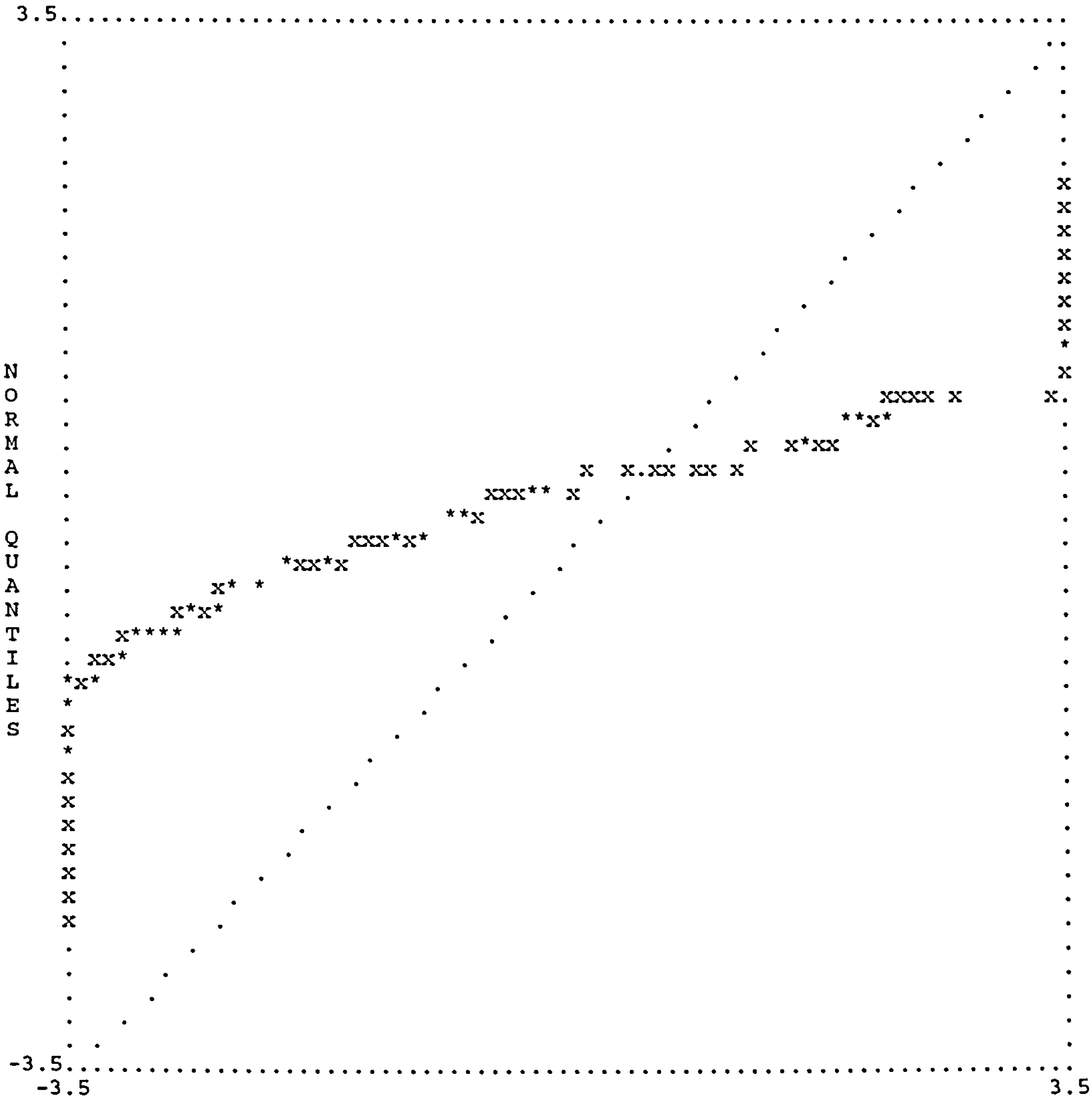
Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         STANDARDIZED RESIDUALS
0                PS2         PH1         PH2         PU1         BS1         BH1
+             --------    --------    --------    --------    --------    --------
    PS2       16.170
    PH1         .955       7.865
    PH2        2.164       2.282      13.424
    PU1        1.650       2.495       -.202      17.701
    BS1        3.675        .442       1.329       1.209      11.843
    BH1        1.535        .021       1.667       2.106        .974       9.567
    BH2       -3.054      -4.878      -3.175       -.568      -2.450       -.663
    BH3       -7.144      -6.997      -4.418       -.130      -7.052      -3.716
    BR1       -3.898      -3.659      -2.964      -2.856      -3.613      -1.654
    BR2       -5.546      -4.733      -4.743       2.255      -5.034      -2.609
    BR3       -3.317      -1.315        .393        .641      -2.974      -3.825
0         STANDARDIZED RESIDUALS
0                BH2         BH3         BR1         BR2         BR3
+             --------    --------    --------    --------    --------
    BH2       12.720
    BH3       -3.085       6.757
    BR1       -1.920      -1.350       7.071
    BR2       -3.431      -1.655      -5.493       6.498
    BR3       -5.604      -3.741      -3.118       -.599      13.168
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =    -7.144
   MEDIAN STANDARDIZED RESIDUAL =    -1.530
  LARGEST STANDARDIZED RESIDUAL =    23.406
-STEMLEAF PLOT
 - 6|1100
 - 4|6552098776541
 - 2|99987777766444433332221111000998876666544444333210
 - 0|9987777654322111008888877666433221O
   0|24446700235777788
   2|001122334457467
   4|333
   6|5819
   8|6
  10|8
  12|67248
  14|
  16|27
  18|
  20|
  22|44
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
 0RESIDUAL FOR     BCOM2 AND      PINV =  -3.907
 0RESIDUAL FOR     BCOM2 AND      BINV =  -3.287
 0RESIDUAL FOR     BCOM2 AND     BCOM2 =  -2.602
 0RESIDUAL FOR       PS1 AND      BINV =  -2.765
 0RESIDUAL FOR       PS1 AND     BCOM2 =  -2.699
 0RESIDUAL FOR       PS2 AND      BINV =  -3.744
 0RESIDUAL FOR       PS2 AND     BCOM1 =  -3.579
 0RESIDUAL FOR       PS2 AND     BCOM2 =  -4.508
 0RESIDUAL FOR       PS2 AND      BSUP =  -2.613
 0RESIDUAL FOR       PH1 AND      BINV =  -3.284
 0RESIDUAL FOR       PH1 AND     BCOM1 =  -3.387
 0RESIDUAL FOR       PH1 AND     BCOM2 =  -4.633
 0RESIDUAL FOR       PH2 AND      PINV =  -2.613
 0RESIDUAL FOR       PH2 AND      BINV =  -2.772
 0RESIDUAL FOR       PH2 AND     BCOM2 =  -3.889
 0RESIDUAL FOR       PU1 AND     BCOM2 =  -4.139
 0RESIDUAL FOR       BS1 AND      BINV =  -3.352
 0RESIDUAL FOR       BS1 AND     BCOM1 =  -2.964
 0RESIDUAL FOR       BS1 AND     BCOM2 =  -4.788
 0RESIDUAL FOR       BH2 AND      PINV =  -3.081
 0RESIDUAL FOR       BH2 AND      BINV =  -3.365
 0RESIDUAL FOR       BH2 AND     BCOM1 =  -3.301
 0RESIDUAL FOR       BH2 AND     BCOM2 =  -3.710
 0RESIDUAL FOR       BH2 AND       PS2 =  -3.054
 0RESIDUAL FOR       BH2 AND       PH1 =  -4.878
 0RESIDUAL FOR       BH2 AND       PH2 =  -3.175
 0RESIDUAL FOR       BH3 AND       PS1 =  -7.018
 0RESIDUAL FOR       BH3 AND       PS2 =  -7.144
 0RESIDUAL FOR       BH3 AND       PH1 =  -6.997
 0RESIDUAL FOR       BH3 AND       PH2 =  -4.418
 0RESIDUAL FOR       BH3 AND       BS1 =  -7.052
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0RESIDUAL FOR      BH3 AND      BH1 =  -3.716
0RESIDUAL FOR      BH3 AND      BH2 =  -3.085
0RESIDUAL FOR      BR1 AND     BINV =  -3.183
0RESIDUAL FOR      BR1 AND      PS1 =  -2.856
0RESIDUAL FOR      BR1 AND      PS2 =  -3.898
0RESIDUAL FOR      BR1 AND      PH1 =  -3.659
0RESIDUAL FOR      BR1 AND      PH2 =  -2.964
0RESIDUAL FOR      BR1 AND      PU1 =  -2.856
0RESIDUAL FOR      BR1 AND      BS1 =  -3.613
0RESIDUAL FOR      BR2 AND    BCOM2 =  -3.232
0RESIDUAL FOR      BR2 AND      PS1 =  -5.221
0RESIDUAL FOR      BR2 AND      PS2 =  -5.546
0RESIDUAL FOR      BR2 AND      PH1 =  -4.733
0RESIDUAL FOR      BR2 AND      PH2 =  -4.743
0RESIDUAL FOR      BR2 AND      BS1 =  -5.034
0RESIDUAL FOR      BR2 AND      BH1 =  -2.609
0RESIDUAL FOR      BR2 AND      BH2 =  -3.431
0RESIDUAL FOR      BR2 AND      BR1 =  -5.493
0RESIDUAL FOR      BR3 AND      PS2 =  -3.317
0RESIDUAL FOR      BR3 AND      BS1 =  -2.974
0RESIDUAL FOR      BR3 AND      BH1 =  -3.825
0RESIDUAL FOR      BR3 AND      BH2 =  -5.604
0RESIDUAL FOR      BR3 AND      BH3 =  -3.741
0RESIDUAL FOR      BR3 AND      BR1 =  -3.118
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR     PINV AND     PINV =  13.827
0RESIDUAL FOR     BINV AND     PINV =   4.328
0RESIDUAL FOR     BINV AND     BINV =  22.378
0RESIDUAL FOR    BCOM1 AND    BCOM1 =   5.269
0RESIDUAL FOR     BSUP AND     BSUP =  23.406
0RESIDUAL FOR      PS1 AND      PS1 =  12.577
0RESIDUAL FOR      PS2 AND      PS2 =  16.170
0RESIDUAL FOR      PH1 AND      PS1 =   4.266
0RESIDUAL FOR      PH1 AND      PH1 =   7.865
0RESIDUAL FOR      PH2 AND      PS1 =   3.388
0RESIDUAL FOR      PH2 AND      PH2 =  13.424
0RESIDUAL FOR      PU1 AND      PU1 =  17.701
0RESIDUAL FOR      BS1 AND      PS2 =   3.675
0RESIDUAL FOR      BS1 AND      BS1 =  11.843
0RESIDUAL FOR      BH1 AND      BH1 =   9.567
0RESIDUAL FOR      BH2 AND     BSUP =   2.727
0RESIDUAL FOR      BH2 AND      BH2 =  12.720
0RESIDUAL FOR      BH3 AND      BH3 =   6.757
0RESIDUAL FOR      BR1 AND      BR1 =   7.071
0RESIDUAL FOR      BR2 AND      BR2 =   6.498
0RESIDUAL FOR      BR3 AND     BSUP =   3.642
0RESIDUAL FOR      BR3 AND      BR3 =  13.168
```

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-                                   QPLOT OF STANDARDIZED RESIDUALS



STANDARDIZED RESIDUALS

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-STANDARD ERRORS
0 LAMBDA Y
0
+

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.055	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X
0
+

	PS	PH	PU	BS	BH	BR
PS1	.000	.000	.000	.000	.000	.000
PS2	.038	.000	.000	.000	.000	.000
PH1	.000	.000	.000	.000	.000	.000
PH2	.000	.039	.000	.000	.000	.000
PU1	.000	.000	.000	.000	.000	.000
BS1	.000	.000	.000	.000	.000	.000
BH1	.000	.000	.000	.000	.000	.000
BH2	.000	.000	.000	.000	.067	.000
BH3	.000	.000	.000	.000	.074	.000
BR1	.000	.000	.000	.000	.000	.000
BR2	.000	.000	.000	.000	.000	.061
BR3	.000	.000	.000	.000	.000	.055

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.036	.000	.000	.000
BCOM	.000	.041	.000	.000
BND SUP	.000	.000	.025	.000

GAMMA

	PS	PH	PU	BS	BH	BR
PI	.080	.073	.041	.000	.000	.000
BI	.000	.000	.000	.037	.067	.079
BCOM	.000	.000	.000	.000	.000	.000
BND SUP	.000	.000	.000	.000	.000	.000

PHI

	PS	PH	PU	BS	BH	BR
PS	.040					
PH	.034	.047				
PU	.029	.033	.035			
BS	.034	.036	.034	.035		
BH	.029	.030	.023	.031	.041	
BR	.031	.032	.026	.033	.028	.048

PSI

PI	BI	BCOM	BND SUP
.028	.017	.024	.009

THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.000	.000	.030	.030	.000

THETA DELTA

PS1	PS2	PH1	PH2	PU1	BS1
.023	.017	.028	.027	.000	.000

THETA DELTA

BH1	BH2	BH3	BR1	BR2	BR3
.036	.042	.038	.044	.027	.028

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS

CORRELATIONS OF ESTIMATES

	LY 4,3	LX 2,1	LX 4,2	LX 8,5	LX 9,5	LX 11,6
LY 4,3	1.000					
LX 2,1	.045	1.000				
LX 4,2	-.151	.047	1.000			
LX 8,5	-.034	.141	.021	1.000		
LX 9,5	.040	.135	-.071	.624	1.000	
LX 11,6	-.063	.041	.053	-.069	-.049	1.000
LX 12,6	-.076	.022	.131	.049	-.006	.586
BE 2,1	.091	-.010	-.020	.064	.023	.061
BE 3,2	-.427	-.021	.046	.003	-.078	-.068
BE 4,3	-.309	.092	.030	.152	.117	.065
GA 1,1	-.035	.120	-.137	.081	.090	-.048
GA 1,2	.015	-.019	.159	-.038	-.018	.132
GA 1,3	.031	.010	.095	-.001	-.050	.022
GA 2,4	.050	-.030	.076	-.022	-.025	-.053
GA 2,5	-.117	-.016	.072	.014	.046	-.012
GA 2,6	-.072	.048	-.016	-.033	-.029	.412
PH 1,1	-.072	-.697	-.007	-.183	-.220	-.032
PH 2,1	-.016	-.485	-.051	-.176	-.214	-.072
PH 2,2	.023	-.135	-.259	-.023	-.102	-.155
PH 3,1	-.134	-.183	-.077	-.101	-.068	.044
PH 3,2	-.081	-.190	-.077	-.068	-.058	.065
PH 3,3	.027	.021	-.007	.129	.119	.134
PH 4,1	-.089	-.487	-.028	-.160	-.239	-.066
PH 4,2	.010	-.164	.000	-.109	-.142	-.039
PH 4,3	-.198	-.109	-.010	-.038	-.042	.034
PH 4,4	-.092	.011	-.028	-.061	-.142	-.055
PH 5,1	-.027	-.344	-.027	-.459	-.552	.011
PH 5,2	.068	-.207	-.082	-.417	-.495	.014
PH 5,3	-.088	-.030	-.089	-.111	-.155	.036
PH 5,4	.027	-.048	-.001	-.437	-.511	.008
PH 5,5	.010	-.177	-.043	-.684	-.738	.034
PH 6,1	-.054	-.419	-.114	-.118	-.120	-.483

PH 6,2	-.017	-.217	-.164	-.015	-.048	-.518
PH 6,3	-.040	-.124	-.047	-.047	-.044	-.167
PH 6,4	-.023	-.066	-.090	-.070	-.054	-.507
PH 6,5	.019	-.129	-.082	-.388	-.439	-.407
PH 6,6	.012	-.049	-.061	.054	.064	-.817
PS 1,1	-.008	.063	-.140	.085	.102	-.153
PS 2,2	.048	-.011	-.062	.043	.098	.045
PS 3,3	-.156	-.008	-.008	.058	.062	.053
PS 4,4	-.003	-.044	.011	.013	-.056	.009
TE 3,3	.409	.054	-.018	-.040	.047	-.004
TE 4,4	-.392	-.009	.096	-.033	-.094	.044
TD 1,1	.083	.626	-.031	.101	.091	-.065
TD 2,2	.022	-.369	-.147	.027	.023	-.051
TD 3,3	.009	-.017	.431	-.014	.005	.148
TD 4,4	.081	-.121	-.454	-.034	-.050	-.042
TD 7,7	-.005	.076	-.027	.506	.535	-.052
TD 8,8	.043	.002	-.074	-.446	.064	.093
TD 9,9	-.110	.003	.132	-.036	-.508	.088
TD 10,10	-.051	.008	.032	-.031	-.004	.733
TD 11,11	.058	-.054	-.010	.040	-.039	-.261
TD 12,12	.001	.119	-.045	-.066	-.012	.020

0 CORRELATIONS OF ESTIMATES

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	LX 12,6	BE 2,1	BE 3,2	BE 4,3	GA 1,1	GA 1,2
LX 12,6	1.000					
BE 2,1	-.004	1.000				
BE 3,2	-.081	-.073	1.000			
BE 4,3	.122	-.066	.096	1.000		
GA 1,1	.028	.109	-.115	-.034	1.000	
GA 1,2	.018	-.137	-.014	.047	-.851	1.000
GA 1,3	.024	.024	-.150	-.005	.082	-.149
GA 2,4	-.095	-.150	-.032	-.045	.031	-.017
GA 2,5	-.030	-.011	.042	.017	-.122	.123
GA 2,6	.371	-.334	-.148	.088	.013	.057
PH 1,1	-.030	-.010	.009	-.226	-.126	.049
PH 2,1	-.013	-.010	-.031	-.279	-.157	.064
PH 2,2	.015	.076	-.089	-.229	.330	-.443
PH 3,1	.005	-.016	-.051	-.013	-.001	.035
PH 3,2	.099	.027	-.080	-.037	-.017	-.002
PH 3,3	.063	.006	-.184	.062	-.069	.147
PH 4,1	-.067	-.005	.008	-.223	-.079	.032
PH 4,2	.006	.018	-.047	-.225	-.057	-.018
PH 4,3	-.009	-.029	-.041	-.023	.010	.041
PH 4,4	-.046	-.008	.028	-.126	.038	-.017
PH 5,1	-.081	-.013	-.019	-.222	-.043	.025
PH 5,2	-.071	.063	-.102	-.220	-.013	-.017
PH 5,3	-.026	.018	-.086	.004	-.019	.025
PH 5,4	-.067	-.032	-.027	-.148	.014	-.006
PH 5,5	-.088	-.021	-.072	-.115	-.074	.058
PH 6,1	-.347	-.039	-.036	-.210	.056	-.067
PH 6,2	-.356	-.023	-.061	-.187	.062	-.095
PH 6,3	-.110	-.049	-.113	.012	.003	-.006
PH 6,4	-.367	.004	-.026	-.131	.144	-.137
PH 6,5	-.404	-.005	-.082	-.082	.055	-.062
PH 6,6	-.616	-.043	-.032	-.051	.092	-.108
PS 1,1	-.091	.072	-.034	-.002	.046	-.226
PS 2,2	.001	.315	-.014	-.009	.122	-.125
PS 3,3	.124	-.138	-.290	.160	-.002	.034
PS 4,4	.009	.062	-.025	-.120	.023	-.014
TE 3,3	-.065	.022	-.297	-.112	-.014	.041
TE 4,4	.029	-.115	.110	-.009	.083	-.064
TD 1,1	-.103	-.006	-.065	-.032	.105	-.010
TD 2,2	-.024	.012	-.018	-.011	.015	-.032
TD 3,3	.042	-.071	.022	.020	-.532	.613
TD 4,4	-.112	.060	-.007	-.012	.016	-.051
TD 7,7	.046	-.080	-.061	.069	-.020	.042
TD 8,8	.062	-.043	-.084	-.036	-.005	.008
TD 9,9	.145	-.020	.039	.019	.010	-.011
TD 10,10	.541	.046	-.017	.052	.019	.040
TD 11,11	.105	-.025	.007	.026	.013	-.054
TD 12,12	-.401	-.071	.040	-.008	-.030	.036

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 CORRELATIONS OF ESTIMATES

	GA 1,3	GA 2,4	GA 2,5	GA 2,6	PH 1,1	PH 2,1
GA 1,3	1.000					
GA 2,4	.037	1.000				
GA 2,5	.049	-.137	1.000			
GA 2,6	-.053	-.353	-.546	1.000		
PH 1,1	.036	-.010	.018	-.010	1.000	
PH 2,1	-.003	-.033	.003	.018	.782	1.000
PH 2,2	-.035	-.083	-.104	.051	.278	.532
PH 3,1	-.112	-.005	-.069	.070	.267	.284
PH 3,2	-.151	-.038	-.071	.106	.242	.275
PH 3,3	-.029	.121	.046	.027	.028	-.000
PH 4,1	.060	-.010	.015	-.030	.882	.727
PH 4,2	.008	-.013	-.049	.035	.527	.809
PH 4,3	-.122	-.023	-.038	.087	.198	.212
PH 4,4	.035	-.052	-.003	.002	.481	.424
PH 5,1	.034	-.010	-.027	.011	.584	.507
PH 5,2	.041	.035	-.201	.067	.348	.514
PH 5,3	.152	-.042	-.004	.007	.100	.129
PH 5,4	.008	.016	-.074	.021	.344	.316
PH 5,5	.023	.037	-.127	.041	.281	.277
PH 6,1	.030	-.088	.028	-.182	.630	.613
PH 6,2	-.047	.004	-.046	-.209	.346	.544
PH 6,3	.216	.097	.044	-.138	.151	.124
PH 6,4	.011	-.112	.001	-.206	.360	.377
PH 6,5	.036	.073	-.206	-.135	.256	.274
PH 6,6	.034	.074	.035	-.436	.132	.158
PS 1,1	-.043	.012	-.008	-.097	-.067	-.098
PS 2,2	-.078	.283	.033	-.430	-.067	-.082
PS 3,3	.077	-.050	-.012	.147	-.003	.017
PS 4,4	-.067	.098	.059	-.092	.084	.085
TE 3,3	-.048	.050	-.062	-.023	-.107	-.139
TE 4,4	-.118	.008	.066	.069	.008	.020
TD 1,1	.009	.064	.017	-.062	-.530	-.355
TD 2,2	-.008	.078	-.051	-.020	-.021	.015
TD 3,3	-.037	.137	.106	-.056	.082	-.027
TD 4,4	-.012	-.037	.061	-.091	.164	.125
TD 7,7	.027	-.046	.104	-.009	.024	-.019
TD 8,8	-.081	-.039	.033	.062	.044	.064
TD 9,9	.009	.031	-.028	.075	.082	.081
TD 10,10	-.067	-.091	-.109	.460	.062	.015
TD 11,11	-.061	-.191	-.191	.224	.045	.091
TD 12,12	.036	.056	-.014	.014	-.065	-.067

0 CORRELATIONS OF ESTIMATES

	PH 2,2	PH 3,1	PH 3,2	PH 3,3	PH 4,1	PH 4,2
PH 2,2	1.000					
PH 3,1	.138	1.000				
PH 3,2	.296	.655	1.000			
PH 3,3	-.104	.146	.156	1.000		
PH 4,1	.286	.198	.159	.027	1.000	
PH 4,2	.488	.170	.224	.030	.627	1.000
PH 4,3	.124	.830	.613	.100	.188	.133
PH 4,4	.263	.103	.022	.032	.758	.496
PH 5,1	.236	.180	.102	-.073	.601	.348
PH 5,2	.457	.170	.141	-.089	.363	.428
PH 5,3	.083	.373	.344	.089	.098	.087
PH 5,4	.162	.122	.040	-.065	.465	.347
PH 5,5	.143	.088	.017	-.139	.302	.196
PH 6,1	.373	.242	.123	-.036	.640	.437
PH 6,2	.601	.155	.220	-.040	.364	.464
PH 6,3	.051	.458	.489	.224	.106	.077
PH 6,4	.319	.129	.075	-.030	.499	.460
PH 6,5	.235	.119	.024	-.131	.312	.192
PH 6,6	.201	.044	-.016	-.067	.192	.139
PS 1,1	.051	-.048	-.005	.036	-.034	-.055
PS 2,2	.048	.037	.077	.054	-.066	-.022
PS 3,3	.016	.068	.015	.004	.006	.010
PS 4,4	.037	.120	.099	.084	.111	.091
TE 3,3	-.114	-.034	-.056	.179	-.140	-.120
TE 4,4	.047	.125	.178	.005	-.015	.003
TD 1,1	-.056	-.060	-.106	.073	-.365	-.153
TD 2,2	.072	.030	-.051	.053	.045	-.048
TD 3,3	-.626	.022	.002	.172	.043	-.056

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

TD 4,4	.132	.073	.020	.094	.192	.097
TD 7,7	-.019	.044	.013	.256	.059	.048
TD 8,8	.015	.099	.096	.036	.017	.062
TD 9,9	.082	-.014	.033	.047	.104	.079
TD 10,10	-.015	.058	.090	.234	.038	.024
TD 11,11	.196	-.062	.092	-.025	.022	.054
TD 12,12	-.088	.062	-.023	.111	-.014	-.017

0 CORRELATIONS OF ESTIMATES

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	PH 4,3	PH 4,4	PH 5,1	PH 5,2	PH 5,3	PH 5,4
PH 4,3	1.000					
PH 4,4	.136	1.000				
PH 5,1	.144	.390	1.000			
PH 5,2	.117	.244	.759	1.000		
PH 5,3	.369	.010	.150	.128	1.000	
PH 5,4	.062	.436	.853	.666	.040	1.000
PH 5,5	.005	.212	.716	.680	.089	.708
PH 6,1	.186	.441	.541	.388	.125	.389
PH 6,2	.156	.278	.304	.477	.085	.196
PH 6,3	.435	.005	.069	.058	.516	.018
PH 6,4	.116	.520	.390	.279	.088	.459
PH 6,5	.084	.271	.658	.680	.098	.652
PH 6,6	.053	.211	.128	.132	.030	.123
PS 1,1	-.024	.007	-.031	-.029	-.029	.007
PS 2,2	-.011	-.069	-.019	.063	.056	.009
PS 3,3	.087	.023	-.026	-.050	.182	-.067
PS 4,4	.114	.073	.080	.033	.009	.053
TE 3,3	-.123	-.124	.012	.029	-.120	.103
TE 4,4	.155	-.070	.027	-.008	.031	.024
TD 1,1	-.034	-.040	-.205	-.121	.062	-.018
TD 2,2	-.005	-.042	.037	.067	-.067	-.065
TD 3,3	.043	-.025	-.030	-.129	-.048	-.028
TD 4,4	.031	.128	.144	.108	.112	.082
TD 7,7	.073	.116	-.339	-.373	.065	-.335
TD 8,8	.086	.046	-.010	.014	-.085	-.005
TD 9,9	.018	.095	.130	.117	.008	.107
TD 10,10	.048	.052	.096	.028	.000	.088
TD 11,11	-.064	-.002	-.004	.078	-.097	.043
TD 12,12	.084	.059	.005	.030	.037	.042

0 CORRELATIONS OF ESTIMATES

0

+

	PH 5,5	PH 6,1	PH 6,2	PH 6,3	PH 6,4	PH 6,5
PH 5,5	1.000					
PH 6,1	.279	1.000				
PH 6,2	.194	.745	1.000			
PH 6,3	-.015	.194	.202	1.000		
PH 6,4	.222	.844	.670	.171	1.000	
PH 6,5	.705	.582	.531	.122	.562	1.000
PH 6,6	.067	.643	.676	.297	.691	.597
PS 1,1	-.048	.039	.095	.009	.120	.059
PS 2,2	-.006	-.057	.015	.041	.014	.037
PS 3,3	.008	.037	.048	.029	.012	.007
PS 4,4	-.012	.079	.029	.002	.038	-.008
TE 3,3	.074	-.073	-.090	.037	-.027	.080
TE 4,4	.021	-.022	.011	.118	-.028	-.018
TD 1,1	-.091	-.248	-.080	.033	-.029	-.003
TD 2,2	.008	.074	.094	-.016	-.072	.021
TD 3,3	-.035	-.154	-.217	.088	-.184	-.137
TD 4,4	.056	.152	.130	.059	.102	.083
TD 7,7	-.569	.078	.086	.202	.136	-.358
TD 8,8	-.052	.040	.011	.068	.041	-.049
TD 9,9	.077	.008	.038	.027	-.021	.055
TD 10,10	.059	-.320	-.366	-.143	-.351	-.296
TD 11,11	.043	.041	.103	.023	.044	.074
TD 12,12	.030	-.058	-.046	.027	-.018	.061

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 CORRELATIONS OF ESTIMATES

	PH 6,6	PS 1,1	PS 2,2	PS 3,3	PS 4,4	TE 3,3
PH 6,6	1.000					
PS 1,1	.168	1.000				
PS 2,2	.053	.119	1.000			
PS 3,3	-.004	.072	-.187	1.000		
PS 4,4	-.011	.011	.093	-.004	1.000	
TE 3,3	.035	.048	.019	-.320	-.091	1.000
TE 4,4	-.044	-.072	-.043	-.349	.015	.026
TD 1,1	.084	.075	.028	.014	.012	.056
TD 2,2	.017	.015	-.030	.054	-.040	.049
TD 3,3	-.122	-.135	-.036	-.063	-.037	.104
TD 4,4	.035	.089	-.004	.026	.008	-.043
TD 7,7	.127	.052	.004	.044	-.007	.006
TD 8,8	-.006	-.047	.033	-.056	.007	.050
TD 9,9	-.068	-.141	-.103	.041	.065	-.151
TD 10,10	-.682	-.066	-.043	-.006	.016	.049
TD 11,11	-.009	-.066	-.181	-.085	-.089	-.009
TD 12,12	.017	.055	-.036	-.079	-.004	.055

0 CORRELATIONS OF ESTIMATES

	TE 4,4	TD 1,1	TD 2,2	TD 3,3	TD 4,4	TD 7,7
TE 4,4	1.000					
TD 1,1	-.016	1.000				
TD 2,2	-.056	-.030	1.000			
TD 3,3	.010	-.026	-.118	1.000		
TD 4,4	-.019	-.003	.067	-.107	1.000	
TD 7,7	-.037	.074	-.008	.113	.062	1.000
TD 8,8	-.054	-.107	-.027	.030	-.044	.083
TD 9,9	.072	-.036	-.037	.040	-.001	-.092
TD 10,10	.038	-.050	-.006	.058	.001	.019
TD 11,11	.072	-.119	.032	-.097	-.040	-.030
TD 12,12	.030	.196	-.020	.059	.095	.041

0 CORRELATIONS OF ESTIMATES

	TD 8,8	TD 9,9	TD 10,10	TD 11,11	TD 12,12
TD 8,8	1.000				
TD 9,9	-.013	1.000			
TD 10,10	.065	.077	1.000		
TD 11,11	-.070	.076	.048	1.000	
TD 12,12	.010	-.055	.039	-.170	1.000

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS

-T-VALUES

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	18.656	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	.000	.000	.000	.000	.000
PS2	29.789	.000	.000	.000	.000	.000
PH1	.000	.000	.000	.000	.000	.000
PH2	.000	16.077	.000	.000	.000	.000
PU1	.000	.000	.000	.000	.000	.000
BS1	.000	.000	.000	.000	.000	.000
BH1	.000	.000	.000	.000	.000	.000
BH2	.000	.000	.000	.000	17.298	.000
BH3	.000	.000	.000	.000	16.048	.000
BR1	.000	.000	.000	.000	.000	.000
BR2	.000	.000	.000	.000	.000	19.698
BR3	.000	.000	.000	.000	.000	15.134

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	6.917	.000	.000	.000
BCOM	.000	21.195	.000	.000
BND SUP	.000	.000	-8.533	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         GAMMA
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PI        2.726       8.911        .843        .000        .000        .000
        BI         .000        .000        .000       -.276       1.295       9.493
      BCOM         .000        .000        .000        .000        .000        .000
   BND SUP         .000        .000        .000        .000        .000        .000
0         PHI
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PS       12.756
        PH       11.911      14.373
        PU        1.469       2.991      18.840
        BS       16.672      12.469        .984      21.918
        BH        9.679      10.631        .542      10.160       9.601
        BR       11.314      13.267       5.504      12.174      11.922      10.264
0         PSI
0                   PI          BI        BCOM     BND SUP
+              __________  __________  __________  __________
                 11.607       3.869       2.413      12.775
0         THETA EPS
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+              __________  __________  __________  __________  __________
                   .000        .000      11.196      12.593        .000
0         THETA DELTA
0                  PS1         PS2         PH1         PH2         PU1         BS1
+              __________  __________  __________  __________  __________  __________
                 10.321       4.773       4.873      14.067        .000        .000
0         THETA DELTA
0                  BH1         BH2         BH3         BR1         BR2         BR3
+              __________  __________  __________  __________  __________  __________
                 12.046       6.149       6.849       8.204       5.111      15.142
1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-TOTAL AND INDIRECT EFFECTS
0         TOTAL EFFECTS OF KSI ON  ETA
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PI         .218        .647        .034        .000        .000        .000
        BI         .054        .160        .009       -.010        .087        .754
      BCOM         .047        .139        .007       -.009        .076        .656
   BND SUP        -.010       -.030       -.002        .002       -.016       -.142
0         STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PI         .080        .073        .041        .000        .000        .000
        BI         .022        .027        .010        .037        .067        .079
      BCOM         .019        .024        .009        .032        .059        .071
   BND SUP         .004        .006        .002        .007        .013        .021
0         INDIRECT EFFECTS OF KSI ON  ETA
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PI         .000        .000        .000        .000        .000        .000
        BI         .054        .160        .009        .000        .000        .000
      BCOM         .047        .139        .007       -.009        .076        .656
   BND SUP        -.010       -.030       -.002        .002       -.016       -.142
0         STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                   PS          PH          PU          BS          BH          BR
+              __________  __________  __________  __________  __________  __________
        PI         .000        .000        .000        .000        .000        .000
        BI         .022        .027        .010        .000        .000        .000
      BCOM         .019        .024        .009        .032        .059        .071
   BND SUP         .004        .006        .002        .007        .013        .021
0         TOTAL EFFECTS OF ETA ON  ETA
0                   PI          BI        BCOM     BND SUP
+              __________  __________  __________  __________
        PI         .000        .000        .000        .000
        BI         .247        .000        .000        .000
      BCOM         .215        .871        .000        .000
   BND SUP        -.047       -.189       -.217        .000
0    LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .758
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Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.036	.000	.000	.000
BCOM	.032	.041	.000	.000
BND SUP	.009	.023	.025	.000

0 INDIRECT EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.000	.000	.000	.000
BCOM	.215	.000	.000	.000
BND SUP	-.047	-.189	.000	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.000	.000	.000	.000
BCOM	.032	.000	.000	.000
BND SUP	.009	.023	.000	.000

0 TOTAL EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	1.000	.000	.000	.000
BINV	.247	1.000	.000	.000
BCOM1	.215	.871	1.000	.000
BCOM2	.220	.891	1.023	.000
BSUP	-.047	-.189	-.217	1.000

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.036	.000	.000	.000
BCOM1	.032	.041	.000	.000
BCOM2	.034	.048	.055	.000
BSUP	.009	.023	.025	.000

0 INDIRECT EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.247	.000	.000	.000
BCOM1	.215	.871	.000	.000
BCOM2	.220	.891	.000	.000
BSUP	-.047	-.189	-.217	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.036	.000	.000	.000
BCOM1	.032	.041	.000	.000
BCOM2	.034	.048	.000	.000
BSUP	.009	.023	.025	.000

0 TOTAL EFFECTS OF KSI ON Y

	PS	PH	PU	BS	BH	BR
PINV	.218	.647	.034	.000	.000	.000
BINV	.054	.160	.009	-.010	.087	.754
BCOM1	.047	.139	.007	-.009	.076	.656
BCOM2	.048	.142	.008	-.009	.078	.671
BSUP	-.010	-.030	-.002	.002	-.016	-.142

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON Y

	PS	PH	PU	BS	BH	BR
PINV	.080	.073	.041	.000	.000	.000
BINV	.022	.027	.010	.037	.067	.079
BCOM1	.019	.024	.009	.032	.059	.071
BCOM2	.019	.026	.009	.033	.060	.073
BSUP	.004	.006	.002	.007	.013	.021

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-COVARIANCES
0 Y - ETA

	PINV	BINV	BCOM1	BCOM2	BSUP
PI	.751	.472	.411	.421	-.089
BI	.472	.575	.501	.512	-.109
BCOM	.411	.501	.494	.506	-.107
BND SUP	-.089	-.109	-.107	-.110	.141

0 Y - KSI

	PINV	BINV	BCOM1	BCOM2	BSUP
PS	.376	.373	.325	.332	-.071
PH	.532	.474	.413	.422	-.090
PU	.096	.131	.114	.117	-.025
BS	.413	.423	.368	.377	-.080
BH	.264	.350	.304	.311	-.066
BR	.355	.487	.424	.434	-.092

0 X - ETA

	PS1	PS2	PH1	PH2	PU1	BS1
PI	.376	.432	.532	.334	.096	.413
BI	.373	.428	.474	.298	.131	.423
BCOM	.325	.373	.413	.259	.114	.368
BND SUP	-.071	-.081	-.090	-.056	-.025	-.080

0 X - ETA

	BH1	BH2	BH3	BR1	BR2	BR3
PI	.264	.308	.316	.355	.430	.294
BI	.350	.408	.418	.487	.590	.403
BCOM	.304	.355	.364	.424	.513	.351
BND SUP	-.066	-.077	-.079	-.092	-.111	-.076

0 X - KSI

	PS1	PS2	PH1	PH2	PU1	BS1
PS	.517	.592	.406	.255	.043	.574
PH	.406	.465	.680	.427	.098	.444
PU	.043	.049	.098	.061	.669	.034
BS	.574	.658	.444	.279	.034	.767
BH	.276	.316	.315	.198	.013	.319
BR	.347	.398	.424	.267	.141	.399

0 X - KSI

	BH1	BH2	BH3	BR1	BR2	BR3
PS	.276	.322	.330	.347	.421	.288
PH	.315	.367	.377	.424	.514	.351
PU	.013	.015	.015	.141	.171	.117
BS	.319	.372	.382	.399	.483	.330
BH	.396	.462	.474	.335	.406	.278
BR	.335	.391	.401	.496	.601	.411

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-FIRST ORDER DERIVATIVES
0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	-.077	-.061	.020
BINV	-.059	.000	.017	-.047
BCOM1	-.037	.001	.000	.037
BCOM2	.133	-.004	.000	-.009
BSUP	.147	-.016	.000	.000

0 LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	-.078	-.056	.020	.000	-.010
PS2	.000	.068	.049	-.023	.018	.024
PH1	-.011	.000	-.064	-.059	.112	.049
PH2	.017	.000	.102	.063	-.078	.006
PU1	.000	.000	.000	-.001	.003	.003
BS1	-.000	.001	.002	.000	.000	.000
BH1	-.082	-.097	-.117	-.101	.000	-.045
BH2	.028	.087	.147	.048	.000	.053
BH3	.043	-.007	-.057	.038	.000	-.015
BR1	-.043	-.063	.098	-.063	-.061	.000
BR2	.110	.084	-.185	.135	-.026	.000
BR3	-.084	-.093	.013	-.122	.112	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	-.077	-.057	.015
BI	.000	.000	.017	-.023
BCOM	.068	.000	.000	.028
BND SUP	.147	-.016	.000	.000

0 GAMMA

	PS	PH	PU	BS	BH	BR
PI	.000	.000	.000	.030	-.097	-.082
BI	-.028	.050	.151	.000	.000	.000
BCOM	.035	.003	.133	.106	-.028	-.043
BND SUP	.262	.140	-.195	.252	-.054	-.045

0 PHI

	PS	PH	PU	BS	BH	BR
PS	.000					
PH	.000	.000				
PU	.000	.000	.000			
BS	.000	.000	.000	.000		
BH	.000	.000	.000	.000	.000	
BR	.000	.000	.000	.000	.000	.000

0 PSI

PI	BI	BCOM	BND SUP
.000	.000	.000	.000

0 THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.024	-.261	.000	.000	.000

0 THETA DELTA

PS1	PS2	PH1	PH2	PU1	BS1
.000	.000	.000	.000	-.001	.003

0 THETA DELTA

BH1	BH2	BH3	BR1	BR2	BR3
.000	.000	.000	.000	.000	.000

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS

-FACTOR SCORES REGRESSIONS

0 ETA

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PI	1.247	.043	-.335	-.071	-.230	.074
BI	.114	.344	.091	.081	-.055	.003
BCOM	.073	.220	.188	.167	-.113	.002
BND SUP	-.000	-.001	-.001	-.001	.984	.000

0 ETA

	PS2	PH1	PH2	PU1	BS1	BH1
PI	-.074	-.385	-.159	.008	-.151	.006
BI	.011	.026	.006	.015	.010	.013
BCOM	.007	.017	.004	.009	.006	.008
BND SUP	.000	.000	.000	.000	.000	.000

0 ETA

	BH2	BH3	BR1	BR2	BR3
PI	.077	.026	.140	-.003	-.568
BI	.026	.026	.049	.158	.034
BCOM	.017	.017	.031	.101	.022
BND SUP	.000	.000	-.000	-.000	.000

0 KSI

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PS	.023	.006	.002	.001	-.001	.131
PH	.128	.026	.007	.006	-.004	.015
PU	.004	.009	.002	.002	-.001	-.000
BS	.003	.002	.001	.001	-.000	.028
BH	-.009	.042	.011	.010	-.007	.005
BR	-.030	.129	.034	.030	-.021	.006

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 KSI
0
+

	PS2	PH1	PH2	PU1	BS1	BH1
PS	.440	.026	.006	-.001	.212	.003
PH	.050	.567	.128	.002	.002	.005
PU	-.001	.001	.000	.883	-.013	-.005
BS	.093	.000	.000	-.005	.851	.001
BH	.017	.016	.004	-.029	.019	.120
BR	.020	.043	.010	.036	.030	.016

0 KSI
0
+

	BH2	BH3	BR1	BR2	BR3
PS	.005	.005	.004	.013	.003
PH	.010	.010	.016	.052	.011
PU	-.010	-.011	.008	.025	.005
BS	.003	.003	.003	.008	.002
BH	.237	.241	.019	.062	.013
BR	.032	.032	.109	.351	.076

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS
-STANDARDIZED SOLUTION

0 LAMBDA Y
0
+

	PI	BI	BCOM	BND SUP
PINV	.867	.000	.000	.000
BINV	.000	.758	.000	.000
BCOM1	.000	.000	.703	.000
BCOM2	.000	.000	.719	.000
BSUP	.000	.000	.000	.375

0 LAMBDA X
0
+

	PS	PH	PU	BS	BH	BR
PS1	.719	.000	.000	.000	.000	.000
PS2	.824	.000	.000	.000	.000	.000
PH1	.000	.825	.000	.000	.000	.000
PH2	.000	.518	.000	.000	.000	.000
PU1	.000	.000	.818	.000	.000	.000
BS1	.000	.000	.000	.876	.000	.000
BH1	.000	.000	.000	.000	.629	.000
BH2	.000	.000	.000	.000	.734	.000
BH3	.000	.000	.000	.000	.753	.000
BR1	.000	.000	.000	.000	.000	.704
BR2	.000	.000	.000	.000	.000	.853
BR3	.000	.000	.000	.000	.000	.583

0 BETA
0
+

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.283	.000	.000	.000
BCOM	.000	.939	.000	.000
BND SUP	.000	.000	-.407	.000

0 GAMMA
0
+

	PS	PH	PU	BS	BH	BR
PI	.181	.615	.033	.000	.000	.000
BI	.000	.000	.000	-.012	.072	.700
BCOM	.000	.000	.000	.000	.000	.000
BND SUP	.000	.000	.000	.000	.000	.000

0 CORRELATION MATRIX OF ETA AND KSI
0
+

	PI	BI	BCOM	BND SUP	PS	PH
PI	1.000					
BI	.719	1.000				
BCOM	.675	.939	1.000			
BND SUP	-.274	-.382	-.407	1.000		
PS	.604	.685	.643	-.262	1.000	
PH	.744	.759	.712	-.290	.685	1.000
PU	.135	.211	.198	-.081	.073	.145
BS	.544	.637	.598	-.243	.911	.615
BH	.484	.732	.688	-.280	.610	.607
BR	.581	.912	.856	-.348	.686	.730

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 CORRELATION MATRIX OF ETA AND KSI

	PU	BS	BH	BR
PU	1.000			
BS	.047	1.000		
BH	.024	.579	1.000	
BR	.245	.647	.756	1.000

0 PSI

PI	BI	BCOM	BND SUP
.429	.113	.118	.835

0 REGRESSION MATRIX ETA ON KSI (STANDARDIZED)

	PS	PH	PU	BS	BH	BR
PI	.181	.615	.033	.000	.000	.000
BI	.051	.174	.009	-.012	.072	.700
BCOM	.048	.163	.009	-.011	.068	.658
BND SUP	-.020	-.066	-.004	.004	-.028	-.267

1FULL MODEL FOR ALL PRODUCTS ESTIMATED USING WLS

-MODIFICATION INDICES AND ESTIMATED CHANGE

0 MODIFICATION INDICES FOR LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	19.707	12.606	.625
BINV	3.659	.000	9.282	3.123
BCOM1	1.386	.194	.000	2.621
BCOM2	12.360	2.621	.000	.194
BSUP	4.164	1.410	.000	.000

0 ESTIMATED CHANGE FOR LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.554	.443	-.066
BINV	.133	.000	-1.142	.143
BCOM1	.081	-.359	.000	-.153
BCOM2	-.199	1.262	.000	.045
BSUP	-.061	.193	.000	.000

0 MODIFICATION INDICES FOR LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	5.299	.614	3.264	.000	.085
PS2	.000	5.299	.614	5.737	.290	.655
PH1	.620	.000	3.431	4.566	22.922	8.123
PH2	.620	.000	3.431	2.950	8.422	.046
PU1	.000	.000	.000	2.632	15.329	17.579
BS1	1.840	2.228	4.720	.000	.000	.000
BH1	11.547	11.973	6.844	9.400	.000	7.350
BH2	.969	6.566	8.179	1.648	.000	7.566
BH3	2.531	.053	1.419	1.100	.000	.800
BR1	2.903	5.796	5.512	3.099	12.177	.000
BR2	15.742	7.529	11.881	14.302	2.332	.000
BR3	9.887	8.792	.082	9.858	24.917	.000

0 ESTIMATED CHANGE FOR LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	.146	.023	-.347	-.001	.019
PS2	.000	-.168	-.027	.528	-.035	-.058
PH1	.122	.000	.116	.166	-.441	-.356
PH2	-.076	.000	-.073	-.100	.231	-.017
PU1	.000	.000	.000	5.433	-9.871	-13.442
BS1	13.925	-9.473	-6.606	.000	.000	.000
BH1	.303	.266	.126	.201	.000	.354
BH2	-.073	-.163	-.119	-.074	.000	-.305
BH3	-.127	.016	.054	-.063	.000	.117
BR1	.145	.199	-.120	.107	.433	.000
BR2	-.307	-.192	.138	-.228	.190	.000
BR3	.253	.203	-.013	.174	-.479	.000

0 MODIFICATION INDICES FOR BETA

	PI	BI	BCOM	BND SUP
PI	.000	19.707	11.191	.396
BI	.000	.000	9.282	.663
BCOM	3.659	.000	.000	1.410
BND SUP	4.164	1.410	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         ESTIMATED CHANGE FOR BETA
0                  PI          BI        BCOM     BND SUP
+            --------    --------    --------    --------
      PI         .000        .554        .423       -.058
      BI         .000        .000      -1.142        .062
    BCOM        -.116        .000        .000       -.110
  BND SUP       -.061        .193        .000        .000
0         MODIFICATION INDICES FOR GAMMA
0                  PS          PH          PU          BS          BH          BR
+            --------    --------    --------    --------    --------    --------
      PI         .000        .000        .000       2.632      15.329      17.579
      BI        1.838       2.229       4.719        .000        .000        .000
    BCOM        1.144        .007       5.122       6.463       1.597      19.528
  BND SUP      21.432       7.165       4.669       9.867       1.365       2.268
0         ESTIMATED CHANGE FOR GAMMA
0                  PS          PH          PU          BS          BH          BR
+            --------    --------    --------    --------    --------    --------
      PI         .000        .000        .000       -.187        .340        .464
      BI         .141       -.096       -.067        .000        .000        .000
    BCOM        -.070       -.006       -.083       -.132        .122        .970
  BND SUP       -.176       -.110        .051       -.084        .055        .108
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0         MODIFICATION INDICES FOR THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+            --------    --------    --------    --------    --------
                1.902       9.282        .000        .000        .000
0         ESTIMATED CHANGE FOR THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+            --------    --------    --------    --------    --------
                -.170        .077        .000        .000        .000
0         MODIFICATION INDICES FOR THETA DELTA
0                 PS1         PS2         PH1         PH2         PU1         BS1
+            --------    --------    --------    --------    --------    --------
                 .000        .000        .000        .000       1.749       2.719
0         MODIFICATION INDICES FOR THETA DELTA
0                 BH1         BH2         BH3         BR1         BR2         BR3
+            --------    --------    --------    --------    --------    --------
                 .000        .000        .000        .000        .000        .000
0         ESTIMATED CHANGE FOR THETA DELTA
0                 PS1         PS2         PH1         PH2         PU1         BS1
+            --------    --------    --------    --------    --------    --------
                 .000        .000        .000        .000       3.897      -1.964
0         ESTIMATED CHANGE FOR THETA DELTA
0                 BH1         BH2         BH3         BR1         BR2         BR3
+            --------    --------    --------    --------    --------    --------
                 .000        .000        .000        .000        .000        .000
0        MAXIMUM MODIFICATION INDEX IS    24.92 FOR ELEMENT (12, 5) OF LAMBDA X
-          THE PROBLEM USED   138696 BYTES (= 52.9% OF AVAILABLE WORKSPACE)
-                              TIME USED :     39.8 SECONDS
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood

```
1                              DOS - L I S R E L  7.16
0                                         BY
0                          KARL G JORESKOG AND DAG SORBOM


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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
 DA NI=17 NO=466   MA=CM
 CM FI=C:\PHD\LISREL\ALL8.CMT
 SE
 3 4 1 2 17 5 6 8 9 13 7 10 11 12 14 15 16/
 MO NY=5 NX=12 NK=6 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PS' 'PH' 'PU' 'BS' 'BH' 'BR' /
 PA LX
 1(0 0 0 0 0 0) 1(1 0 0 0 0 0) 1(0 0 0 0 0 0) 1(0 1 0 0 0 0) 3(0 0 0 0 0 0) 2(0 0 0 0 1
0) 1(0 0 0 0 0 0) 2(0 0 0 0 0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,4) GA(1,5) GA(1,6) GA(2,1) GA(2,2) GA(2,3) GA(3,1) GA(3,2) GA(3,3) GA(3,4)
GA(3,5) GA(3,6)
 FI GA(4,1)-GA(4,6)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5 TD 5 TD 6
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(3,2) LX(5,3) LX(6,4) LX(7,5) LX(10,6)
 VA .046 TE 1
 VA .137 TE 2
 VA .080 TD 5
 VA .031 TD 6
 VA .002 TE 5
 OU ALL AD=30 ME=ML
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
0                          NUMBER OF INPUT VARIABLES 17
0                          NUMBER OF Y - VARIABLES    5
0                          NUMBER OF X - VARIABLES   12
0                          NUMBER OF ETA - VARIABLES  4
0                          NUMBER OF KSI - VARIABLES  6
0                          NUMBER OF OBSERVATIONS   466
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

0 COVARIANCE MATRIX TO BE ANALYZED

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PINV	.932					
BINV	.613	.918				
BCOM1	.402	.469	.865			
BCOM2	.298	.421	.473	.878		
BSUP	-.100	-.106	-.135	-.121	.208	
PS1	.353	.282	.256	.251	-.117	.854
PS2	.381	.311	.267	.251	-.128	.649
PH1	.512	.370	.323	.275	-.111	.512
PH2	.258	.215	.211	.144	-.074	.361
PU1	.166	.195	.073	-.023	.027	.102
BS1	.341	.320	.281	.245	-.111	.613
BH1	.249	.280	.263	.233	-.059	.333
BH2	.197	.286	.245	.253	-.029	.245
BH3	.280	.391	.302	.344	-.050	.121
BR1	.267	.379	.355	.412	-.060	.254
BR2	.424	.582	.449	.435	-.082	.267
BR3	.318	.382	.272	.286	-.013	.233

0 COVARIANCE MATRIX TO BE ANALYZED

	PS2	PH1	PH2	PU1	BS1	BH1
PS2	.891					
PH1	.488	.884				
PH2	.355	.488	.759			
PU1	.095	.164	.055	.906		
BS1	.744	.454	.318	.065	.893	
BH1	.367	.316	.254	.093	.351	.915
BH2	.278	.210	.130	-.005	.300	.442
BH3	.164	.170	.103	.011	.180	.362
BR1	.272	.312	.174	.032	.284	.273
BR2	.328	.376	.191	.244	.339	.316
BR3	.218	.308	.234	.141	.229	.126

0 COVARIANCE MATRIX TO BE ANALYZED

	BH2	BH3	BR1	BR2	BR3
BH2	.905				
BH3	.474	.882			
BR1	.325	.357	.917		
BR2	.360	.437	.425	.920	
BR3	.119	.211	.307	.481	.877

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

0PARAMETER SPECIFICATIONS

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	0	0	0	0
BINV	0	0	0	0
BCOM1	0	0	0	0
BCOM2	0	0	1	0
BSUP	0	0	0	0

0 LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	0	0	0	0	0	0
PS2	2	0	0	0	0	0
PH1	0	0	0	0	0	0
PH2	0	3	0	0	0	0
PU1	0	0	0	0	0	0
BS1	0	0	0	0	0	0
BH1	0	0	0	0	0	0
BH2	0	0	0	0	4	0
BH3	0	0	0	0	5	0
BR1	0	0	0	0	0	0
BR2	0	0	0	0	0	6
BR3	0	0	0	0	0	7

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0         BETA
0                   PI          BI          BCOM        BND SUP
+
                 --------    --------    --------    --------
        PI           0           0           0           0
        BI           8           0           0           0
      BCOM           0           9           0           0
   BND SUP           0           0          10           0
0         GAMMA
0                   PS          PH          PU          BS          BH          BR
+
                 --------    --------    --------    --------    --------    --------
        PI          11          12          13           0           0           0
        BI           0           0           0          14          15          16
      BCOM           0           0           0           0           0           0
   BND SUP           0           0           0           0           0           0
0         PHI
0                   PS          PH          PU          BS          BH          BR
+
                 --------    --------    --------    --------    --------    --------
        PS          17
        PH          18          19
        PU          20          21          22
        BS          23          24          25          26
        BH          27          28          29          30          31
        BR          32          33          34          35          36          37
0         PSI
0                   PI          BI          BCOM        BND SUP
+
                 --------    --------    --------    --------
                    38          39          40          41
0         THETA EPS
0                 PINV        BINV        BCOM1       BCOM2       BSUP
+
                 --------    --------    --------    --------    --------
                     0           0          42          43           0
0         THETA DELTA
0                  PS1         PS2         PH1         PH2         PU1         BS1
+
                 --------    --------    --------    --------    --------    --------
                    44          45          46          47           0           0
0         THETA DELTA
0                  BH1         BH2         BH3         BR1         BR2         BR3
+
                 --------    --------    --------    --------    --------    --------
                    48          49          50          51          52          53
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                   PI          BI          BCOM        BND SUP
+
                 --------    --------    --------    --------
      PINV       1.000        .000        .000        .000
      BINV        .000       1.000        .000        .000
     BCOM1        .000        .000       1.000        .000
     BCOM2        .000        .000        .967        .000
      BSUP        .000        .000        .000       1.000
0         LAMBDA X
0                   PS          PH          PU          BS          BH          BR
+
                 --------    --------    --------    --------    --------    --------
       PS1       1.000        .000        .000        .000        .000        .000
       PS2       1.012        .000        .000        .000        .000        .000
       PH1        .000       1.000        .000        .000        .000        .000
       PH2        .000        .682        .000        .000        .000        .000
       PU1        .000        .000       1.000        .000        .000        .000
       BS1        .000        .000        .000       1.000        .000        .000
       BH1        .000        .000        .000        .000       1.000        .000
       BH2        .000        .000        .000        .000        .983        .000
       BH3        .000        .000        .000        .000        .867        .000
       BR1        .000        .000        .000        .000        .000       1.000
       BR2        .000        .000        .000        .000        .000       1.198
       BR3        .000        .000        .000        .000        .000        .790
0         BETA
0                   PI          BI          BCOM        BND SUP
+
                 --------    --------    --------    --------
        PI        .000        .000        .000        .000
        BI        .053        .000        .000        .000
      BCOM        .000        .824        .000        .000
   BND SUP        .000        .000       -.173        .000
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0        GAMMA
0                 PS          PH          PU          BS          BH          BR
+             ________    ________    ________    ________    ________    ________
       PI         .119        .554        .095        .000        .000        .000
       BI         .000        .000        .000       -.000       -.000       1.059
     BCOM         .000        .000        .000        .000        .000        .000
  BND SUP         .000        .000        .000        .000        .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI          BI        BCOM     BND SUP          PS          PH
+             ________    ________    ________    ________    ________    ________
       PI         .886
       BI         .278        .745
     BCOM         .229        .613        .778
  BND SUP        -.040       -.106       -.134        .199
       PS         .365        .294        .242       -.042        .642
       PH         .469        .357        .294       -.051        .505        .716
       PU         .166        .159        .131       -.023        .098        .137
       BS         .340        .320        .263       -.046        .675        .458
       BH         .173        .327        .269       -.047        .267        .249
       BR         .218        .444        .366       -.063        .259        .314
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PU          BS          BH          BR
+             ________    ________    ________    ________
       PU         .826
       BS         .065        .862
       BH         .036        .295        .471
       BR         .142        .285        .300        .408
0        PSI
0                 PI          BI        BCOM     BND SUP
+             ________    ________    ________    ________
                  .567        .260        .273        .176
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             ________    ________    ________    ________    ________
                  .046        .137        .376        .421        .002
0        THETA DELTA
0                PS1         PS2         PH1         PH2         PU1         BS1
+             ________    ________    ________    ________    ________    ________
                  .213        .234        .168        .426        .080        .031
0        THETA DELTA
0                BH1         BH2         BH3         BR1         BR2         BR3
+             ________    ________    ________    ________    ________    ________
                  .443        .449        .527        .508        .334        .622
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             ________    ________    ________    ________    ________
                  .951        .845        .674        .634        .990
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PS1         PS2         PH1         PH2         PU1         BS1
+             ________    ________    ________    ________    ________    ________
                  .751        .737        .810        .439        .912        .965
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                BH1         BH2         BH3         BR1         BR2         BR3
+             ________    ________    ________    ________    ________    ________
                  .515        .504        .402        .446        .637        .291
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI          BI        BCOM     BND SUP
+             ________    ________    ________    ________
                  .360        .651        .649        .117
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS    .747
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY    ABSCISSA            SLOPE               FUNCTION
0             1    0    .00000000D+00      -.35566340D+00       .65570365D+00
                   1    .10000000D+01      -.34715036D-01       .45548152D+00
0             2    0    .00000000D+00      -.50474977D-01       .45548152D+00
                   1    .10000000D+01       .66267456D-02       .43147768D+00
                   2    .88394841D+00      -.14708547D-02       .43118362D+00
0             3    0    .00000000D+00      -.68273707D-02       .43118362D+00
                   1    .88394841D+00       .76064552D-05       .42809914D+00
0             4    0    .00000000D+00      -.72643182D-03       .42809914D+00
                   1    .88394841D+00       .26462556D-03       .42788457D+00
                   2    .64792238D+00      -.14200756D-04       .42785524D+00
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0          5   0   .00000000D+00   -.14254446D-03   .42785524D+00
               1   .64792238D+00   -.50151346D-04   .42779284D+00
               2   .99961721D+00   -.26086295D-06   .42778399D+00
0          6   0   .00000000D+00   -.51904403D-04   .42778399D+00
               1   .99961721D+00   -.10777242D-04   .42775258D+00
               2   .12615637D+01    .15144332D-06   .42775119D+00
0          7   0   .00000000D+00   -.11177623D-04   .42775119D+00
               1   .12615637D+01    .21924413D-05   .42774553D+00
               2   .10546908D+01    .53939573D-08   .42774530D+00
0          8   0   .00000000D+00   -.24706898D-05   .42774530D+00
               1   .10546908D+01    .12109791D-07   .42774401D+00
0          9   0   .00000000D+00   -.46313427D-06   .42774401D+00
               1   .10546908D+01   -.71976397D-07   .42774372D+00
               2   .12487629D+01   -.18213685D-10   .42774372D+00
0         10   0   .00000000D+00   -.13702274D-06   .42774372D+00
               1   .12487629D+01    .49001841D-08   .42774363D+00
0         11   0   .00000000D+00   -.30271608D-07   .42774363D+00
               1   .12487629D+01    .18111397D-08   .42774362D+00
0         12   0   .00000000D+00   -.81464939D-08   .42774362D+00
               1   .12487629D+01   -.30905732D-09   .42774361D+00
0         13   0   .00000000D+00   -.17591396D-08   .42774361D+00
               1   .12487629D+01    .24673552D-09   .42774361D+00
               2   .10951571D+01   -.76811700D-14   .42774361D+00
0         14   0   .00000000D+00   -.29859743D-09   .42774361D+00
               1   .10951571D+01    .63314185D-10   .42774361D+00
               2   .90356615D+00    .35134174D-15   .42774361D+00
0         15   0   .00000000D+00   -.44195298D-10   .42774361D+00
               1   .90356615D+00   -.10252512D-11   .42774361D+00
0         16   0   .00000000D+00   -.39420235D-11   .42774361D+00
               1   .90356615D+00   -.60950781D-12   .42774361D+00
               2   .10688259D+01    .55813935D-18   .42774361D+00
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0        LAMBDA Y
0
+
```

	PI	BI	BCOM	BND SUP
PINV	1.000	.000	.000	.000
BINV	.000	1.000	.000	.000
BCOM1	.000	.000	1.000	.000
BCOM2	.000	.000	.888	.000
BSUP	.000	.000	.000	1.000

```
0        LAMBDA X
0
+
```

	PS	PH	PU	BS	BH	BR
PS1	1.000	.000	.000	.000	.000	.000
PS2	1.159	.000	.000	.000	.000	.000
PH1	.000	1.000	.000	.000	.000	.000
PH2	.000	.656	.000	.000	.000	.000
PU1	.000	.000	1.000	.000	.000	.000
BS1	.000	.000	.000	1.000	.000	.000
BH1	.000	.000	.000	.000	1.000	.000
BH2	.000	.000	.000	.000	1.173	.000
BH3	.000	.000	.000	.000	1.122	.000
BR1	.000	.000	.000	.000	.000	1.000
BR2	.000	.000	.000	.000	.000	1.548
BR3	.000	.000	.000	.000	.000	1.009

```
0        BETA
0
+
```

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.429	.000	.000	.000
BCOM	.000	.640	.000	.000
BND SUP	.000	.000	-.241	.000

```
0        GAMMA
0
+
```

	PS	PH	PU	BS	BH	BR
PI	.061	.645	.078	.000	.000	.000
BI	.000	.000	.000	-.036	.100	.857
BCOM	.000	.000	.000	.000	.000	.000
BND SUP	.000	.000	.000	.000	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0        COVARIANCE MATRIX OF ETA AND KSI
0                PI         BI       BCOM     BND SUP          PS         PH
+            --------   --------   --------   --------   --------   --------
     PI        .886
     BI        .544       .719
   BCOM        .348       .461       .518
BND SUP       -.084      -.111      -.125       .205
     PS        .332       .300       .192      -.046       .560
     PH        .507       .443       .283      -.068       .450       .725
     PU        .168       .192       .123      -.030       .087       .153
     BS        .340       .334       .214      -.052       .634       .458
     BH        .149       .276       .177      -.043       .201       .209
     BR        .188       .349       .223      -.054       .187       .257
0        COVARIANCE MATRIX OF ETA AND KSI
0                PU         BS         BH         BR
+            --------   --------   --------   --------
     PU        .826
     BS        .065       .862
     BH        .023       .243       .355
     BR        .140       .227       .217       .297
0        PSI
0                PI         BI       BCOM    BND SUP
+            --------   --------   --------   --------
               .526       .172       .223       .175
0        THETA EPS
0              PINV       BINV      BCOM1      BCOM2       BSUP
+            --------   --------   --------   --------   --------
               .046       .137       .326       .453       .002
0        THETA DELTA
0               PS1        PS2        PH1        PH2        PU1        BS1
+            --------   --------   --------   --------   --------   --------
               .294       .139       .159       .447       .080       .031
0        THETA DELTA
0               BH1        BH2        BH3        BR1        BR2        BR3
+            --------   --------   --------   --------   --------   --------
               .559       .416       .434       .620       .209       .575
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0              PINV       BINV      BCOM1      BCOM2       BSUP
+            --------   --------   --------   --------   --------
               .951       .840       .613       .474       .990
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               PS1        PS2        PH1        PH2        PU1        BS1
+            --------   --------   --------   --------   --------   --------
               .656       .845       .820       .411       .912       .965
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               BH1        BH2        BH3        BR1        BR2        BR3
+            --------   --------   --------   --------   --------   --------
               .388       .541       .507       .324       .773       .344
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                PI         BI       BCOM    BND SUP
+            --------   --------   --------   --------
               .407       .761       .569       .148
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .736


0         CHI-SQUARE WITH 100 DEGREES OF FREEDOM =    397.80 (P = .000)
0                     GOODNESS OF FIT INDEX = .910
               ADJUSTED GOODNESS OF FIT INDEX = .863
                    ROOT MEAN SQUARE RESIDUAL =      .061
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 FITTED COVARIANCE MATRIX

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PINV	.932					
BINV	.544	.856				
BCOM1	.348	.461	.845			
BCOM2	.309	.409	.460	.861		
BSUP	-.084	-.111	-.125	-.111	.207	
PS1	.332	.300	.192	.170	-.046	.854
PS2	.384	.347	.222	.197	-.054	.649
PH1	.507	.443	.283	.251	-.068	.450
PH2	.333	.290	.186	.165	-.045	.295
PU1	.168	.192	.123	.109	-.030	.087
BS1	.340	.334	.214	.190	-.052	.634
BH1	.149	.276	.177	.157	-.043	.201
BH2	.175	.324	.208	.184	-.050	.236
BH3	.167	.310	.199	.176	-.048	.226
BR1	.188	.349	.223	.198	-.054	.187
BR2	.292	.540	.345	.307	-.083	.289
BR3	.190	.351	.225	.200	-.054	.189

0 FITTED COVARIANCE MATRIX

	PS2	PH1	PH2	PU1	BS1	BH1
PS2	.891					
PH1	.522	.884				
PH2	.342	.475	.759			
PU1	.101	.153	.100	.906		
BS1	.735	.458	.300	.065	.893	
BH1	.233	.209	.137	.023	.243	.915
BH2	.273	.245	.161	.027	.285	.417
BH3	.261	.234	.154	.025	.272	.399
BR1	.217	.257	.169	.140	.227	.217
BR2	.336	.399	.261	.217	.352	.336
BR3	.219	.260	.170	.141	.229	.219

0 FITTED COVARIANCE MATRIX

	BH2	BH3	BR1	BR2	BR3
BH2	.905				
BH3	.468	.882			
BR1	.255	.244	.917		
BR2	.394	.377	.459	.920	
BR3	.257	.246	.299	.463	.877

0 FITTED RESIDUALS

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PINV	-.000					
BINV	.069	.061				
BCOM1	.053	.009	.021			
BCOM2	-.011	.012	.013	.016		
BSUP	-.016	.005	-.010	-.010	.001	
PS1	.021	-.017	.064	.080	-.070	.000
PS2	-.003	-.036	.045	.054	-.075	-.000
PH1	.004	-.072	.040	.023	-.043	.061
PH2	-.074	-.075	.025	-.020	-.030	.065
PU1	-.002	.003	-.050	-.132	.057	.015
BS1	.001	-.014	.068	.055	-.059	-.021
BH1	.100	.003	.086	.076	-.016	.132
BH2	.022	-.038	.037	.069	.021	.010
BH3	.113	.081	.103	.167	-.002	-.105
BR1	.079	.031	.132	.214	-.006	.067
BR2	.133	.042	.104	.129	.001	-.022
BR3	.128	.031	.047	.086	.041	.044

0 FITTED RESIDUALS

	PS2	PH1	PH2	PU1	BS1	BH1
PS2	.000					
PH1	-.035	.000				
PH2	.013	.013	.000			
PU1	-.006	.011	-.045	.000		
BS1	.009	-.004	.017	.000	.000	
BH1	.134	.107	.117	.070	.109	.000
BH2	.005	-.035	-.031	-.032	.016	.026
BH3	-.097	-.065	-.050	-.015	-.092	-.037
BR1	.055	.054	.005	-.108	.057	.056
BR2	-.008	-.023	-.070	.027	-.013	-.020
BR3	-.000	.049	.063	-.000	-.000	-.093

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 FITTED RESIDUALS

	BH2	BH3	BR1	BR2	BR3
BH2	.000				
BH3	.006	.000			
BR1	.071	.113	.000		
BR2	-.034	.060	-.034	.000	
BR3	-.138	-.034	.008	.018	.000

```
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =    -.138
   MEDIAN FITTED RESIDUAL =     .005
  LARGEST FITTED RESIDUAL =     .214
-STEMLEAF PLOT
 -12|82
 -10|85
 - 8|732
 - 6|5542005
 - 4|90053
 - 2|8765544421032100
 - 0|7665431008664322000000000000000000
   0|11133455568990123335667 8
   2|11123567117
   4|012457934455677
   6|01134578990169
   8|0166
  10|03479337
  12|892234
  14|
  16|7
  18|
  20|4
```

0 STANDARDIZED RESIDUALS

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PINV	.000					
BINV	5.638	6.552				
BCOM1	2.246	.892	2.632			
BCOM2	-.439	1.028	2.192	.753		
BSUP	-1.034	.496	-1.264	-.946	5.645	
PS1	1.101	-.845	2.099	2.492	-3.984	.000
PS2	-.316	-2.667	1.570	1.742	-4.252	-.436
PH1	.941	-4.436	1.472	.814	-2.591	4.096
PH2	-4.125	-3.438	.849	-.663	-1.776	3.136
PU1	-1.376	.164	-1.528	-3.799	3.001	.739
BS1	.113	-2.118	2.422	1.819	-3.369	-4.410
BH1	2.854	.134	2.616	2.208	-.858	4.597
BH2	.683	-1.972	1.213	2.119	1.154	.390
BH3	3.511	4.011	3.352	5.147	-.097	-4.159
BR1	2.286	1.461	4.278	6.547	-.325	2.149
BR2	5.005	3.528	4.399	5.031	.088	-1.113
BR3	3.840	1.522	1.581	2.732	2.366	1.477

0 STANDARDIZED RESIDUALS

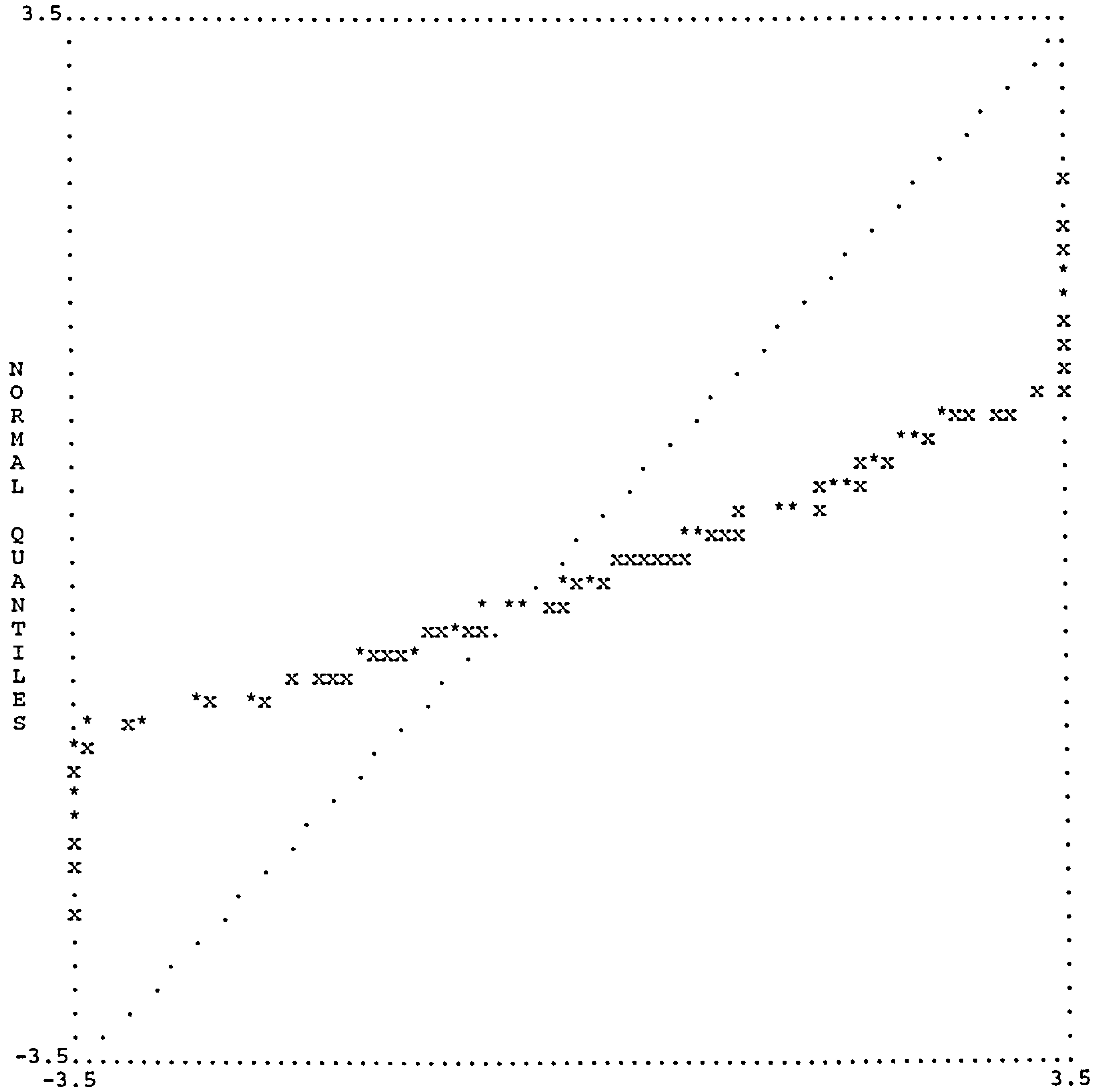
	PS2	PH1	PH2	PU1	BS1	BH1
PS2	.000					
PH1	-5.001	.000				
PH2	.780	5.349	.000			
PU1	-.739	1.806	-1.696	.000		
BS1	4.365	-.914	.895	.000	.000	
BH1	5.249	4.084	3.761	2.422	4.410	.000
BH2	.257	-1.782	-1.077	-1.460	.866	1.952
BH3	-4.741	-3.087	-1.767	-.626	-4.800	-2.568
BR1	1.913	2.014	.159	-3.438	2.022	1.781
BR2	-.656	-2.214	-3.057	2.498	-1.591	-.935
BR3	-.010	1.883	2.127	-.004	-.014	-3.046

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0        STANDARDIZED RESIDUALS
0                BH2         BH3          BR1          BR2          BR3
+             --------    --------     --------     --------     --------
      BH2        .000
      BH3        .651        .000
      BR1       2.484       3.929         .000
      BR2      -2.224       3.670       -4.162         .000
      BR3      -5.051      -1.238         .309        2.342         .000
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =   -5.051
   MEDIAN STANDARDIZED RESIDUAL =     .390
  LARGEST STANDARDIZED RESIDUAL =    6.552
-STEMLEAF PLOT
 - 5|10
 - 4|874432210
 - 3|8444110
 - 2|7662210
 - 1|8887655432110
 - 0|9999877764433100000000000000000
   0|11122334577788889999
   1|0122555566788899
   2|0001111222334445556679
   3|014557889
   4|01134446
   5|0012366
   6|56
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR       PS1 AND      BSUP =  -3.984
0RESIDUAL FOR       PS2 AND      BINV =  -2.667
0RESIDUAL FOR       PS2 AND      BSUP =  -4.252
0RESIDUAL FOR       PH1 AND      BINV =  -4.436
0RESIDUAL FOR       PH1 AND      BSUP =  -2.591
0RESIDUAL FOR       PH1 AND       PS2 =  -5.001
0RESIDUAL FOR       PH2 AND      PINV =  -4.125
0RESIDUAL FOR       PH2 AND      BINV =  -3.438
0RESIDUAL FOR       PU1 AND     BCOM2 =  -3.799
0RESIDUAL FOR       BS1 AND      BSUP =  -3.369
0RESIDUAL FOR       BS1 AND       PS1 =  -4.410
0RESIDUAL FOR       BH3 AND       PS1 =  -4.159
0RESIDUAL FOR       BH3 AND       PS2 =  -4.741
0RESIDUAL FOR       BH3 AND       PH1 =  -3.087
0RESIDUAL FOR       BH3 AND       BS1 =  -4.800
0RESIDUAL FOR       BR1 AND       PU1 =  -3.438
0RESIDUAL FOR       BR2 AND       PH2 =  -3.057
0RESIDUAL FOR       BR2 AND       BR1 =  -4.162
0RESIDUAL FOR       BR3 AND       BH1 =  -3.046
0RESIDUAL FOR       BR3 AND       BH2 =  -5.051
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR      BINV AND      PINV =   5.638
0RESIDUAL FOR      BINV AND      BINV =   6.552
0RESIDUAL FOR     BCOM1 AND     BCOM1 =   2.632
0RESIDUAL FOR      BSUP AND      BSUP =   5.645
0RESIDUAL FOR       PH1 AND       PS1 =   4.096
0RESIDUAL FOR       PH2 AND       PS1 =   3.136
0RESIDUAL FOR       PH2 AND       PH1 =   5.349
0RESIDUAL FOR       PU1 AND      BSUP =   3.001
0RESIDUAL FOR       BS1 AND       PS2 =   4.365
0RESIDUAL FOR       BH1 AND      PINV =   2.854
0RESIDUAL FOR       BH1 AND     BCOM1 =   2.616
0RESIDUAL FOR       BH1 AND       PS1 =   4.597
0RESIDUAL FOR       BH1 AND       PS2 =   5.249
0RESIDUAL FOR       BH1 AND       PH1 =   4.084
0RESIDUAL FOR       BH1 AND       PH2 =   3.761
0RESIDUAL FOR       BH1 AND       BS1 =   4.410
0RESIDUAL FOR       BH3 AND      PINV =   3.511
0RESIDUAL FOR       BH3 AND      BINV =   4.011
0RESIDUAL FOR       BH3 AND     BCOM1 =   3.352
0RESIDUAL FOR       BH3 AND     BCOM2 =   5.147
0RESIDUAL FOR       BR1 AND     BCOM1 =   4.278
0RESIDUAL FOR       BR1 AND     BCOM2 =   6.547
0RESIDUAL FOR       BR1 AND       BH3 =   3.929
0RESIDUAL FOR       BR2 AND      PINV =   5.005
0RESIDUAL FOR       BR2 AND      BINV =   3.528
0RESIDUAL FOR       BR2 AND     BCOM1 =   4.399
0RESIDUAL FOR       BR2 AND     BCOM2 =   5.031
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0RESIDUAL FOR      BR2 AND       BH3 =   3.670
0RESIDUAL FOR      BR3 AND      PINV =   3.840
0RESIDUAL FOR      BR3 AND     BCOM2 =   2.732
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-                        QPLOT OF STANDARDIZED RESIDUALS
```

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1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-STANDARD ERRORS
0         LAMBDA Y
0
+
```

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.074	.000
BSUP	.000	.000	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 LAMBDA X
0
+

	PS	PH	PU	BS	BH	BR
PS1	.000	.000	.000	.000	.000	.000
PS2	.049	.000	.000	.000	.000	.000
PH1	.000	.000	.000	.000	.000	.000
PH2	.000	.049	.000	.000	.000	.000
PU1	.000	.000	.000	.000	.000	.000
BS1	.000	.000	.000	.000	.000	.000
BH1	.000	.000	.000	.000	.000	.000
BH2	.000	.000	.000	.000	.105	.000
BH3	.000	.000	.000	.000	.102	.000
BR1	.000	.000	.000	.000	.000	.000
BR2	.000	.000	.000	.000	.000	.128
BR3	.000	.000	.000	.000	.000	.102

0 BETA
0
+

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.034	.000	.000	.000
BCOM	.000	.045	.000	.000
BND SUP	.000	.000	.034	.000

0 GAMMA
0
+

	PS	PH	PU	BS	BH	BR
PI	.087	.090	.044	.000	.000	.000
BI	.000	.000	.000	.037	.088	.113
BCOM	.000	.000	.000	.000	.000	.000
BND SUP	.000	.000	.000	.000	.000	.000

0 PHI
0
+

	PS	PH	PU	BS	BH	BR
PS	.054					
PH	.043	.068				
PU	.036	.042	.059			
BS	.050	.046	.042	.059		
BH	.031	.034	.031	.036	.054	
BR	.028	.034	.029	.033	.030	.048

0 PSI
0
+

PI	BI	BCOM	BND SUP
.043	.024	.038	.012

0 THETA EPS
0
+

PINV	BINV	BCOM1	BCOM2	BSUP
.000	.000	.040	.041	.000

0 THETA DELTA
0
+

PS1	PS2	PH1	PH2	PU1	BS1
.023	.019	.038	.034	.000	.000

0 THETA DELTA
0
+

BH1	BH2	BH3	BR1	BR2	BR3
.045	.041	.041	.044	.034	.042

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

0 CORRELATIONS OF ESTIMATES
0
+

	LY 4,3	LX 2,1	LX 4,2	LX 8,5	LX 9,5	LX 11,6
LY 4,3	1.000					
LX 2,1	.000	1.000				
LX 4,2	.000	-.000	1.000			
LX 8,5	.000	.000	.000	1.000		
LX 9,5	.000	.000	.000	.589	1.000	
LX 11,6	.000	.000	-.001	.000	.000	1.000
LX 12,6	.000	.000	.000	.000	.000	.638
BE 2,1	.000	.000	-.021	-.000	.000	.041
BE 3,2	-.433	.000	.000	.000	.000	.000
BE 4,3	-.267	.000	.000	.000	.000	.000
GA 1,1	.000	.020	-.202	.000	.000	.001
GA 1,2	.000	.001	.332	.000	.000	-.001
GA 1,3	.000	.000	-.059	.000	.000	.002
GA 2,4	.000	.000	.008	.002	.001	.033
GA 2,5	.000	.000	-.003	.059	.059	.080
GA 2,6	.000	.000	.002	.003	.001	.419
PH 1,1	.000	-.619	-.000	.000	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

PH 2,1	.000	-.329	-.106	.000	.000	.000
PH 2,2	.000	.001	-.419	.000	.000	.001
PH 3,1	.000	-.077	.000	.000	.000	.000
PH 3,2	.000	.000	-.036	.000	.000	.000
PH 3,3	.000	.000	.000	.000	.000	.000
PH 4,1	.000	-.399	.000	.000	.000	.000
PH 4,2	.000	.000	-.097	.000	.000	.000
PH 4,3	.000	.000	.000	.000	.000	-.000
PH 4,4	.000	.000	.000	.000	.000	.000
PH 5,1	.000	-.205	-.000	-.369	-.358	.000
PH 5,2	.000	.000	-.066	-.347	-.336	.001
PH 5,3	.000	.000	-.000	-.042	-.041	.002
PH 5,4	.000	.000	.000	-.382	-.371	.000
PH 5,5	.000	.000	.000	-.724	-.709	.000
PH 6,1	.000	-.209	.000	.000	.000	-.477
PH 6,2	.000	.000	-.083	.000	.000	-.539
PH 6,3	.000	.000	.000	-.000	-.000	-.339
PH 6,4	.000	.000	.001	.000	.000	-.496
PH 6,5	.000	.000	.001	-.406	-.394	-.516
PH 6,6	.000	.000	.000	.000	.000	-.836
PS 1,1	.000	.001	-.126	.000	.000	-.001
PS 2,2	.000	.000	-.002	.001	.000	.073
PS 3,3	-.477	.000	.000	.000	.000	.000
PS 4,4	-.011	.000	.000	.000	.000	.000
TE 3,3	.473	.000	.000	.000	.000	.000
TE 4,4	-.386	.000	.000	.000	.000	.000
TD 1,1	.000	.154	.000	.000	.000	.000
TD 2,2	.000	-.252	.002	.000	.000	.000
TD 3,3	.000	-.001	.505	.000	.000	-.002
TD 4,4	.000	.000	-.262	.000	.000	.000
TD 7,7	.000	.000	.000	.271	.261	-.000
TD 8,8	.000	.000	.000	-.327	.029	-.000
TD 9,9	.000	.000	.000	.037	-.299	-.000
TD 10,10	.000	.000	-.000	.000	.000	.172
TD 11,11	.000	.000	.004	-.000	-.000	-.334
TD 12,12	.000	.000	-.000	.000	.000	.036

0 CORRELATIONS OF ESTIMATES

0

+

	LX 12,6	BE 2,1	BE 3,2	BE 4,3	GA 1,1	GA 1,2
LX 12,6	1.000					
BE 2,1	.000	1.000				
BE 3,2	.000	-.084	1.000			
BE 4,3	.000	.000	.233	1.000		
GA 1,1	.000	.040	.000	.000	1.000	
GA 1,2	.000	-.052	.000	.000	-.804	1.000
GA 1,3	.000	.005	.000	.000	.095	-.215
GA 2,4	.000	-.242	.006	.000	-.040	.027
GA 2,5	-.000	.105	-.008	.000	.000	-.002
GA 2,6	.402	-.219	-.051	.000	.003	-.002
PH 1,1	.000	.000	.000	.000	-.018	.000
PH 2,1	.000	.002	.000	.000	-.042	-.036
PH 2,2	.000	.024	.000	.000	.229	-.388
PH 3,1	.000	.000	.000	.000	-.006	.000
PH 3,2	.000	.001	.000	.000	.007	-.015
PH 3,3	.000	.000	.000	.000	.000	.000
PH 4,1	.000	.000	.000	.000	-.011	.000
PH 4,2	.000	.002	.000	.000	-.051	-.018
PH 4,3	.000	.000	.000	.000	-.005	.001
PH 4,4	.000	.000	.000	.000	.000	.000
PH 5,1	.000	-.003	.000	.000	-.005	-.001
PH 5,2	.000	-.009	.000	.000	.001	-.037
PH 5,3	.000	-.002	.000	.000	-.001	-.001
PH 5,4	.000	.000	.000	.000	.000	.000
PH 5,5	.000	-.000	.000	.000	.000	.000
PH 6,1	-.352	-.031	.000	.000	-.005	-.001
PH 6,2	-.401	-.066	.000	.000	.020	-.058
PH 6,3	-.256	-.022	.000	.000	-.001	-.001
PH 6,4	-.366	-.017	.000	.000	-.000	.000
PH 6,5	-.381	-.019	.000	.000	-.000	.001
PH 6,6	-.658	-.005	.000	.000	.000	.000
PS 1,1	.000	-.025	.000	.000	.221	-.298
PS 2,2	-.000	.050	-.092	.000	-.001	.001
PS 3,3	.000	.010	.128	.275	.000	.000
PS 4,4	.000	.000	.022	.143	.000	.000
TE 3,3	.000	.000	-.220	-.248	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

TE 4,4	.000	.000	.161	.053	.000	.000
TD 1,1	.000	.000	.000	.000	.005	-.000
TD 2,2	.000	.000	.000	.000	.003	-.003
TD 3,3	.000	-.043	.000	.000	-.405	.559
TD 4,4	.000	.009	.000	.000	.081	-.124
TD 7,7	.000	.000	.000	.000	.000	.000
TD 8,8	.000	.001	.000	.000	.000	.000
TD 9,9	.000	.000	.000	.000	.000	.000
TD 10,10	.114	.005	.000	.000	.000	-.000
TD 11,11	.001	-.127	.000	.000	-.002	.003
TD 12,12	-.115	.005	.000	.000	.000	-.000

0 CORRELATIONS OF ESTIMATES

	GA 1,3	GA 2,4	GA 2,5	GA 2,6	PH 1,1	PH 2,1
GA 1,3	1.000					
GA 2,4	.002	1.000				
GA 2,5	.013	-.191	1.000			
GA 2,6	-.014	-.127	-.603	1.000		
PH 1,1	.000	.000	.000	.000	1.000	
PH 2,1	.007	-.001	.000	-.000	.737	1.000
PH 2,2	.067	-.009	.003	-.003	.238	.619
PH 3,1	-.007	.000	.000	.000	.172	.218
PH 3,2	-.113	-.000	.000	-.000	.075	.177
PH 3,3	-.011	.000	.000	.000	.010	.022
PH 4,1	.000	.001	.000	.000	.892	.713
PH 4,2	.008	-.001	.000	.000	.493	.831
PH 4,3	.000	-.000	-.001	.001	.105	.164
PH 4,4	.000	.002	.000	.000	.547	.498
PH 5,1	.000	-.017	-.028	-.001	.459	.433
PH 5,2	.009	-.005	-.027	-.005	.213	.403
PH 5,3	-.001	.002	.006	-.011	.045	.080
PH 5,4	.000	-.022	-.026	-.001	.284	.315
PH 5,5	.000	.002	-.076	.004	.060	.078
PH 6,1	-.002	-.098	-.038	-.210	.467	.512
PH 6,2	-.008	-.038	-.030	-.262	.197	.419
PH 6,3	-.007	-.001	.021	-.205	.045	.088
PH 6,4	-.001	-.122	-.034	-.218	.287	.380
PH 6,5	-.001	-.006	-.141	-.226	.099	.151
PH 6,6	-.000	-.004	-.009	-.499	.058	.101
PS 1,1	.055	.003	-.002	.008	.000	.015
PS 2,2	.005	.104	.132	-.214	.000	.000
PS 3,3	.000	-.001	.001	.006	.000	.000
PS 4,4	.000	.000	.000	.000	.000	.000
TE 3,3	.000	.000	.000	.000	.000	.000
TE 4,4	.000	.000	.000	.000	.000	.000
TD 1,1	.000	.000	.000	.000	-.121	-.051
TD 2,2	-.000	-.000	.000	.000	.024	.083
TD 3,3	-.119	.015	-.005	.005	-.000	-.055
TD 4,4	.024	-.003	.001	-.001	.000	.028
TD 7,7	.000	-.003	.030	-.004	.000	.000
TD 8,8	.000	-.007	.012	-.012	.000	.000
TD 9,9	.000	-.006	.009	-.009	.000	.000
TD 10,10	.000	.004	.009	.079	.000	.000
TD 11,11	-.007	-.102	-.245	.225	.000	-.000
TD 12,12	.000	.004	.010	-.010	.000	.000

0 CORRELATIONS OF ESTIMATES

	PH 2,2	PH 3,1	PH 3,2	PH 3,3	PH 4,1	PH 4,2
PH 2,2	1.000					
PH 3,1	.122	1.000				
PH 3,2	.215	.612	1.000			
PH 3,3	.025	.161	.240	1.000		
PH 4,1	.262	.148	.072	.008	1.000	
PH 4,2	.582	.165	.144	.016	.648	1.000
PH 4,3	.106	.839	.525	.102	.123	.185
PH 4,4	.227	.085	.052	.005	.835	.652
PH 5,1	.194	.079	.048	.005	.479	.368
PH 5,2	.368	.073	.081	.007	.256	.426
PH 5,3	.066	.363	.325	.049	.048	.077
PH 5,4	.170	.046	.035	.003	.403	.388
PH 5,5	.051	.010	.009	.001	.078	.088
PH 6,1	.261	.243	.157	.031	.488	.442
PH 6,2	.455	.163	.247	.046	.239	.439
PH 6,3	.086	.380	.455	.318	.048	.083
PH 6,4	.227	.186	.127	.020	.409	.474

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

PH 6,5	.112	.065	.060	.008	.131	.170
PH 6,6	.088	.066	.078	.030	.077	.115
PS 1,1	.143	.000	.005	.000	-.000	.011
PS 2,2	.002	.000	.000	.000	.000	.000
PS 3,3	.000	.000	.000	.000	.000	.000
PS 4,4	.000	.000	.000	.000	.000	.000
TE 3,3	.000	.000	.000	.000	.000	.000
TE 4,4	.000	.000	.000	.000	.000	.000
TD 1,1	-.000	-.012	.000	.000	-.061	-.000
TD 2,2	-.002	.019	-.000	.000	.100	-.001
TD 3,3	-.523	-.000	-.017	.000	.001	-.046
TD 4,4	.139	.000	.009	.000	-.000	.025
TD 7,7	.000	.000	.000	.000	.000	.000
TD 8,8	.000	.000	.000	.000	.000	.000
TD 9,9	.000	.000	.000	.000	.000	.000
TD 10,10	.000	.000	.000	.000	.000	.000
TD 11,11	-.004	.000	-.000	.000	.000	-.000
TD 12,12	.000	.000	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES
0
+

	PH 4,3	PH 4,4	PH 5,1	PH 5,2	PH 5,3	PH 5,4
PH 4,3	1.000					
PH 4,4	.102	1.000				
PH 5,1	.060	.369	1.000			
PH 5,2	.072	.241	.690	1.000		
PH 5,3	.372	.038	.125	.179	1.000	
PH 5,4	.052	.445	.866	.643	.092	1.000
PH 5,5	.011	.080	.579	.544	.065	.600
PH 6,1	.199	.378	.481	.337	.117	.393
PH 6,2	.150	.225	.282	.451	.128	.260
PH 6,3	.383	.037	.056	.085	.481	.040
PH 6,4	.219	.454	.391	.312	.102	.456
PH 6,5	.067	.135	.494	.528	.188	.514
PH 6,6	.069	.080	.119	.149	.089	.125
PS 1,1	-.000	.000	.000	.014	.000	.000
PS 2,2	-.000	.000	.000	.002	.004	-.000
PS 3,3	.000	.000	.000	.000	.000	.000
PS 4,4	.000	.000	.000	.000	.000	.000
TE 3,3	.000	.000	.000	.000	.000	.000
TE 4,4	.000	.000	.000	.000	.000	.000
TD 1,1	.000	.000	-.032	.000	.000	.000
TD 2,2	.000	.000	.052	-.000	.000	.000
TD 3,3	.000	.000	-.000	-.041	-.001	.000
TD 4,4	.000	.000	.000	.018	.000	.000
TD 7,7	.000	.000	-.122	-.115	-.014	-.126
TD 8,8	.000	.000	.073	.069	.008	.076
TD 9,9	.000	.000	.055	.052	.006	.057
TD 10,10	.000	.000	.000	.000	.000	.000
TD 11,11	.000	.000	.000	-.003	-.005	.000
TD 12,12	.000	.000	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES
0
+

	PH 5,5	PH 6,1	PH 6,2	PH 6,3	PH 6,4	PH 6,5
PH 5,5	1.000					
PH 6,1	.124	1.000				
PH 6,2	.106	.739	1.000			
PH 6,3	.013	.318	.387	1.000		
PH 6,4	.128	.879	.706	.297	1.000	
PH 6,5	.637	.541	.561	.273	.560	1.000
PH 6,6	.079	.628	.713	.456	.652	.680
PS 1,1	.000	.001	.022	.001	.000	.000
PS 2,2	.001	-.030	-.024	-.004	-.033	-.029
PS 3,3	.000	.000	.000	.000	.000	.000
PS 4,4	.000	.000	.000	.000	.000	.000
TE 3,3	.000	.000	.000	.000	.000	.000
TE 4,4	.000	.000	.000	.000	.000	.000
TD 1,1	.000	-.032	.000	.000	.000	.000
TD 2,2	.000	.053	-.000	.000	.000	.000
TD 3,3	.000	.000	-.054	-.000	.001	.001
TD 4,4	.000	.000	.023	.000	-.000	-.000
TD 7,7	-.273	.000	.000	.000	.000	-.134
TD 8,8	.068	.000	.000	.001	.000	.081
TD 9,9	.052	.000	.000	.001	.000	.061
TD 10,10	.000	-.082	-.093	-.059	-.085	-.089
TD 11,11	-.000	.142	.149	.077	.147	.153
TD 12,12	.000	-.006	-.006	-.003	-.006	-.007

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 CORRELATIONS OF ESTIMATES

	PH 6,6	PS 1,1	PS 2,2	PS 3,3	PS 4,4	TE 3,3
PH 6,6	1.000					
PS 1,1	.000	1.000				
PS 2,2	-.008	-.002	1.000			
PS 3,3	.000	.000	-.023	1.000		
PS 4,4	.000	.000	.000	.009	1.000	
TE 3,3	.000	.000	.000	-.526	-.031	1.000
TE 4,4	.000	.000	.000	.062	-.006	-.223
TD 1,1	.000	-.000	.000	.000	.000	.000
TD 2,2	.000	-.002	.000	.000	.000	.000
TD 3,3	.000	-.253	-.003	.000	.000	.000
TD 4,4	.000	.051	.001	.000	.000	.000
TD 7,7	.000	.000	-.001	.000	.000	.000
TD 8,8	.000	.000	-.003	.000	.000	.000
TD 9,9	.000	.000	-.002	.000	.000	.000
TD 10,10	-.147	.000	.009	.000	.000	.000
TD 11,11	.093	.002	-.224	.000	.000	.000
TD 12,12	-.004	.000	.010	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TE 4,4	TD 1,1	TD 2,2	TD 3,3	TD 4,4	TD 7,7
TE 4,4	1.000					
TD 1,1	.000	1.000				
TD 2,2	.000	-.057	1.000			
TD 3,3	.000	.001	.004	1.000		
TD 4,4	.000	-.000	-.001	-.247	1.000	
TD 7,7	.000	.000	.000	.000	.000	1.000
TD 8,8	.000	.000	.000	.000	.000	-.082
TD 9,9	.000	.000	.000	.000	.000	-.062
TD 10,10	.000	.000	.000	-.000	.000	.000
TD 11,11	.000	.000	.000	.007	-.001	.001
TD 12,12	.000	.000	.000	-.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TD 8,8	TD 9,9	TD 10,10	TD 11,11	TD 12,12
TD 8,8	1.000				
TD 9,9	-.170	1.000			
TD 10,10	.000	.000	1.000		
TD 11,11	.002	.001	-.100	1.000	
TD 12,12	.000	.000	.004	-.110	1.000

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

-T-VALUES

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	12.065	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	.000	.000	.000	.000	.000
PS2	23.633	.000	.000	.000	.000	.000
PH1	.000	.000	.000	.000	.000	.000
PH2	.000	13.340	.000	.000	.000	.000
PU1	.000	.000	.000	.000	.000	.000
BS1	.000	.000	.000	.000	.000	.000
BH1	.000	.000	.000	.000	.000	.000
BH2	.000	.000	.000	.000	11.196	.000
BH3	.000	.000	.000	.000	11.048	.000
BR1	.000	.000	.000	.000	.000	.000
BR2	.000	.000	.000	.000	.000	12.078
BR3	.000	.000	.000	.000	.000	9.873

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	12.563	.000	.000	.000
BCOM	.000	14.205	.000	.000
BND SUP	.000	.000	-7.207	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0        GAMMA
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PI       .697       7.176       1.773        .000        .000        .000
       BI       .000        .000        .000       -.971       1.138       7.602
     BCOM       .000        .000        .000        .000        .000        .000
  BND SUP       .000        .000        .000        .000        .000        .000
0        PHI
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PS     10.374
       PH     10.509      10.672
       PU      2.449       3.664      13.901
       BS     12.729       9.938       1.550      14.719
       BH      6.553       6.162        .741       6.791       6.582
       BR      6.664       7.577       4.848       6.920       7.213       6.224
0        PSI
0                 PI          BI        BCOM     BND SUP
+             --------    --------    --------    --------
              12.363       7.291       5.880      14.362
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             --------    --------    --------    --------    --------
                .000        .000       8.069      11.126        .000
0        THETA DELTA
0                PS1         PS2         PH1         PH2         PU1         BS1
+             --------    --------    --------    --------    --------    --------
              12.892       7.400       4.147      13.270        .000        .000
0        THETA DELTA
0                BH1         BH2         BH3         BR1         BR2         BR3
+             --------    --------    --------    --------    --------    --------
              12.486      10.034      10.674      13.990       6.112      13.860
1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-TOTAL AND INDIRECT EFFECTS
0        TOTAL EFFECTS OF KSI ON  ETA
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PI       .061        .645        .078        .000        .000        .000
       BI       .026        .277        .033       -.036        .100        .857
     BCOM       .017        .177        .021       -.023        .064        .549
  BND SUP      -.004       -.043       -.005        .006       -.015       -.133
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PI       .087        .090        .044        .000        .000        .000
       BI       .038        .043        .019        .037        .088        .113
     BCOM       .024        .030        .012        .024        .056        .080
  BND SUP       .006        .009        .003        .006        .014        .025
0        INDIRECT EFFECTS OF KSI ON  ETA
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PI       .000        .000        .000        .000        .000        .000
       BI       .026        .277        .033        .000        .000        .000
     BCOM       .017        .177        .021       -.023        .064        .549
  BND SUP      -.004       -.043       -.005        .006       -.015       -.133
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                 PS          PH          PU          BS          BH          BR
+             --------    --------    --------    --------    --------    --------
       PI       .000        .000        .000        .000        .000        .000
       BI       .038        .043        .019        .000        .000        .000
     BCOM       .024        .030        .012        .024        .056        .080
  BND SUP       .006        .009        .003        .006        .014        .025
0        TOTAL EFFECTS OF ETA ON  ETA
0                 PI          BI        BCOM     BND SUP
+             --------    --------    --------    --------
       PI       .000        .000        .000        .000
       BI       .429        .000        .000        .000
     BCOM       .274        .640        .000        .000
  BND SUP      -.066       -.155       -.241        .000
```

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0   LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .410
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  ETA
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
      PI      .000        .000        .000        .000
      BI      .034        .000        .000        .000
    BCOM      .028        .045        .000        .000
 BND SUP      .010        .022        .034        .000
0        INDIRECT EFFECTS OF ETA ON  ETA
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
      PI      .000        .000        .000        .000
      BI      .000        .000        .000        .000
    BCOM      .274        .000        .000        .000
 BND SUP     -.066       -.155        .000        .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  ETA
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
      PI      .000        .000        .000        .000
      BI      .000        .000        .000        .000
    BCOM      .028        .000        .000        .000
 BND SUP      .010        .022        .000        .000
0        TOTAL EFFECTS OF ETA ON  Y
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
    PINV     1.000        .000        .000        .000
    BINV      .429       1.000        .000        .000
   BCOM1      .274        .640       1.000        .000
   BCOM2      .244        .568        .888        .000
    BSUP     -.066       -.155       -.241       1.000
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  Y
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
    PINV      .000        .000        .000        .000
    BINV      .034        .000        .000        .000
   BCOM1      .028        .045        .000        .000
   BCOM2      .027        .047        .074        .000
    BSUP      .010        .022        .034        .000
0        INDIRECT EFFECTS OF ETA ON  Y
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
    PINV      .000        .000        .000        .000
    BINV      .429        .000        .000        .000
   BCOM1      .274        .640        .000        .000
   BCOM2      .244        .568        .000        .000
    BSUP     -.066       -.155       -.241        .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  Y
0                 PI          BI          BCOM      BND SUP
+            ________    ________    ________    ________
    PINV      .000        .000        .000        .000
    BINV      .034        .000        .000        .000
   BCOM1      .028        .045        .000        .000
   BCOM2      .027        .047        .000        .000
    BSUP      .010        .022        .034        .000
0        TOTAL EFFECTS OF KSI ON  Y
0                 PS          PH          PU          BS          BH          BR
+            ________    ________    ________    ________    ________    ________
    PINV      .061        .645        .078        .000        .000        .000
    BINV      .026        .277        .033       -.036        .100        .857
   BCOM1      .017        .177        .021       -.023        .064        .549
   BCOM2      .015        .157        .019       -.020        .057        .487
    BSUP     -.004       -.043       -.005        .006       -.015       -.133
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  Y
0                 PS          PH          PU          BS          BH          BR
+            ________    ________    ________    ________    ________    ________
    PINV      .087        .090        .044        .000        .000        .000
    BINV      .038        .043        .019        .037        .088        .113
   BCOM1      .024        .030        .012        .024        .056        .080
   BCOM2      .021        .027        .011        .021        .050        .074
    BSUP      .006        .009        .003        .006        .014        .025
```

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-COVARIANCES
0 Y - ETA

0	PINV	BINV	BCOM1	BCOM2	BSUP
PI	.886	.544	.348	.309	-.084
BI	.544	.719	.461	.409	-.111
BCOM	.348	.461	.518	.460	-.125
BND SUP	-.084	-.111	-.125	-.111	.205

0 Y - KSI

0	PINV	BINV	BCOM1	BCOM2	BSUP
PS	.332	.300	.192	.170	-.046
PH	.507	.443	.283	.251	-.068
PU	.168	.192	.123	.109	-.030
BS	.340	.334	.214	.190	-.052
BH	.149	.276	.177	.157	-.043
BR	.188	.349	.223	.198	-.054

0 X - ETA

0	PS1	PS2	PH1	PH2	PU1	BS1
PI	.332	.384	.507	.333	.168	.340
BI	.300	.347	.443	.290	.192	.334
BCOM	.192	.222	.283	.186	.123	.214
BND SUP	-.046	-.054	-.068	-.045	-.030	-.052

0 X - ETA

0	BH1	BH2	BH3	BR1	BR2	BR3
PI	.149	.175	.167	.188	.292	.190
BI	.276	.324	.310	.349	.540	.351
BCOM	.177	.208	.199	.223	.345	.225
BND SUP	-.043	-.050	-.048	-.054	-.083	-.054

0 X - KSI

0	PS1	PS2	PH1	PH2	PU1	BS1
PS	.560	.649	.450	.295	.087	.634
PH	.450	.522	.725	.475	.153	.458
PU	.087	.101	.153	.100	.826	.065
BS	.634	.735	.458	.300	.065	.862
BH	.201	.233	.209	.137	.023	.243
BR	.187	.217	.257	.169	.140	.227

0 X - KSI

0	BH1	BH2	BH3	BR1	BR2	BR3
PS	.201	.236	.226	.187	.289	.189
PH	.209	.245	.234	.257	.399	.260
PU	.023	.027	.025	.140	.217	.141
BS	.243	.285	.272	.227	.352	.229
BH	.355	.417	.399	.217	.336	.219
BR	.217	.255	.244	.297	.459	.299

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-FIRST ORDER DERIVATIVES
0 LAMBDA Y

0	PI	BI	BCOM	BND SUP
PINV	.000	-.138	-.083	-.008
BINV	-.015	.000	.095	-.033
BCOM1	-.046	-.005	.000	.014
BCOM2	.092	-.007	.000	.012
BSUP	.049	-.049	.000	.000

0 LAMBDA X

0	PS	PH	PU	BS	BH	BR
PS1	.000	-.159	-.049	.064	.006	-.009
PS2	.000	.137	.042	-.055	.001	.014
PH1	.026	.000	-.063	.030	.061	.045
PH2	-.040	.000	.096	-.039	.010	.049
PU1	.000	.000	.000	.000	.008	.009
BS1	.001	.004	.001	.000	.000	.000
BH1	-.191	-.187	-.115	-.194	.000	.004
BH2	-.012	.059	.072	-.034	.000	.051
BH3	.179	.095	.023	.209	.000	-.057
BR1	-.081	-.076	.159	-.092	-.082	.000
BR2	.045	.048	-.121	.060	-.001	.000
BR3	-.019	-.091	-.006	-.001	.084	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	-.138	-.042	-.015
BI	.000	.000	.095	-.017
BCOM	.023	.000	.000	.024
BND SUP	.049	-.049	.000	.000

0 GAMMA

	PS	PH	PU	BS	BH	BR
PI	.000	.000	.000	-.006	-.104	-.120
BI	.035	.109	.040	.000	.000	.000
BCOM	-.152	-.140	.191	-.184	-.121	-.090
BND SUP	.269	.196	-.225	.281	-.044	-.071

0 PHI

	PS	PH	PU	BS	BH	BR
PS	.000					
PH	.000	.000				
PU	.000	.000	.000			
BS	.000	.000	.000	.000		
BH	.000	.000	.000	.000	.000	
BR	.000	.000	.000	.000	.000	.000

0 PSI

PI	BI	BCOM	BND SUP
.000	.000	.000	.000

0 THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.061	-.272	.000	.000	.000

0 THETA DELTA

PS1	PS2	PH1	PH2	PU1	BS1
.000	.000	.000	.000	-.005	-.006

0 THETA DELTA

BH1	BH2	BH3	BR1	BR2	BR3
.000	.000	.000	.000	.000	.000

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

-FACTOR SCORES REGRESSIONS

0 ETA

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PI	.903	.048	.006	.004	-.003	.003
BI	.144	.566	.071	.045	-.032	-.001
BCOM	.043	.169	.340	.217	-.152	-.000
BND SUP	-.000	-.000	-.001	-.001	.989	.000

0 ETA

	PS2	PH1	PH2	PU1	BS1	BH1
PI	.007	.028	.006	.004	.001	-.002
BI	-.003	.018	.004	.011	-.000	.012
BCOM	-.001	.005	.001	.003	.000	.004
BND SUP	.000	.000	.000	.000	.000	.000

0 ETA

	BH2	BH3	BR1	BR2	BR3
PI	-.003	-.003	-.003	-.014	-.003
BI	.019	.018	.024	.109	.026
BCOM	.006	.005	.007	.033	.008
BND SUP	.000	.000	.000	.000	.000

0 KSI

	PINV	BINV	BCOM1	BCOM2	BSUP	PS1
PS	.019	-.002	-.000	-.000	.000	.135
PH	.096	.021	.003	.002	-.001	.040
PU	.008	.006	.001	.001	-.000	.003
BS	.001	.000	.000	.000	.000	.030
BH	-.022	.050	.006	.004	-.003	.009
BR	-.041	.108	.013	.009	-.006	-.004

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 KSI
0
+

	PS2	PH1	PH2	PU1	BS1	BH1
PS	.333	.074	.017	.010	.288	.005
PH	.099	.579	.135	.006	-.007	.000
PU	.007	.003	.001	.903	-.012	-.004
BS	.075	-.001	-.000	-.005	.877	.002
BH	.022	.001	.000	-.029	.028	.137
BR	-.010	.036	.008	.032	.033	.020

0 KSI
0
+

	BH2	BH3	BR1	BR2	BR3
PS	.007	.007	-.002	-.009	-.002
PH	.001	.000	.009	.042	.010
PU	-.007	-.006	.004	.019	.004
BS	.002	.002	.002	.008	.002
BH	.216	.198	.018	.081	.019
BR	.031	.028	.067	.306	.072

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD
-STANDARDIZED SOLUTION
0 LAMBDA Y
0
+

	PI	BI	BCOM	BND SUP
PINV	.941	.000	.000	.000
BINV	.000	.848	.000	.000
BCOM1	.000	.000	.720	.000
BCOM2	.000	.000	.639	.000
BSUP	.000	.000	.000	.453

0 LAMBDA X
0
+

	PS	PH	PU	BS	BH	BR
PS1	.748	.000	.000	.000	.000	.000
PS2	.868	.000	.000	.000	.000	.000
PH1	.000	.852	.000	.000	.000	.000
PH2	.000	.558	.000	.000	.000	.000
PU1	.000	.000	.909	.000	.000	.000
BS1	.000	.000	.000	.929	.000	.000
BH1	.000	.000	.000	.000	.596	.000
BH2	.000	.000	.000	.000	.699	.000
BH3	.000	.000	.000	.000	.669	.000
BR1	.000	.000	.000	.000	.000	.545
BR2	.000	.000	.000	.000	.000	.843
BR3	.000	.000	.000	.000	.000	.549

0 BETA
0
+

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.476	.000	.000	.000
BCOM	.000	.754	.000	.000
BND SUP	.000	.000	-.384	.000

0 GAMMA
0
+

	PS	PH	PU	BS	BH	BR
PI	.048	.584	.075	.000	.000	.000
BI	.000	.000	.000	-.039	.070	.551
BCOM	.000	.000	.000	.000	.000	.000
BND SUP	.000	.000	.000	.000	.000	.000

0 CORRELATION MATRIX OF ETA AND KSI
0
+

	PI	BI	BCOM	BND SUP	PS	PH
PI	1.000					
BI	.681	1.000				
BCOM	.514	.754	1.000			
BND SUP	-.197	-.290	-.384	1.000		
PS	.471	.472	.356	-.137	1.000	
PH	.633	.613	.462	-.177	.707	1.000
PU	.196	.249	.188	-.072	.128	.197
BS	.388	.424	.320	-.123	.913	.580
BH	.265	.547	.413	-.158	.450	.411
BR	.368	.754	.569	-.219	.459	.555

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

0 CORRELATION MATRIX OF ETA AND KSI

	PU	BS	BH	BR
PU	1.000			
BS	.077	1.000		
BH	.042	.439	1.000	
BR	.283	.450	.668	1.000

0 PSI

PI	BI	BCOM	BND SUP
.593	.239	.431	.852

0 REGRESSION MATRIX ETA ON KSI (STANDARDIZED)

	PS	PH	PU	BS	BH	BR
PI	.048	.584	.075	.000	.000	.000
BI	.023	.278	.036	-.039	.070	.551
BCOM	.017	.209	.027	-.030	.053	.415
BND SUP	-.007	-.080	-.010	.011	-.020	-.159

1FULL INV. / BS MODEL ALL PRODUCTS BY MAXIMUM LIKELIHOOD

-MODIFICATION INDICES AND ESTIMATED CHANGE

0 MODIFICATION INDICES FOR LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	38.580	9.972	.075
BINV	.312	.000	18.417	.947
BCOM1	1.207	.279	.000	.360
BCOM2	5.164	.360	.000	.279
BSUP	.383	1.335	.000	.000

0 ESTIMATED CHANGE FOR LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.603	.260	.020
BINV	.045	.000	-.418	.062
BCOM1	.056	.114	.000	-.057
BCOM2	-.121	.105	.000	-.049
BSUP	-.017	.059	.000	.000

0 MODIFICATION INDICES FOR LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	18.705	.594	19.799	.029	.077
PS2	.000	18.705	.594	19.607	.001	.262
PH1	2.680	.000	3.120	1.139	7.351	6.115
PH2	2.680	.000	3.120	.993	.116	4.399
PU1	.000	.000	.000	.148	16.681	31.642
BS1	4.706	9.869	.455	.000	.000	.000
BH1	33.823	25.915	5.887	21.284	.000	.077
BH2	.144	2.712	2.297	.687	.000	11.978
BH3	29.725	6.615	.227	24.364	.000	14.021
BR1	5.794	5.055	11.973	4.453	21.025	.000
BR2	2.412	2.405	6.864	2.619	.010	.000
BR3	.304	6.882	.014	.000	20.724	.000

0 ESTIMATED CHANGE FOR LAMBDA X

	PS	PH	PU	BS	BH	BR
PS1	.000	.253	.026	-.662	-.011	.019
PS2	.000	-.293	-.030	.764	-.002	-.041
PH1	-.222	.000	.107	-.083	-.260	-.292
PH2	.146	.000	-.070	.054	-.026	-.191
PU1	.000	.000	.000	-.716	-4.438	-7.304
BS1	-7.988	-5.429	-.678	.000	.000	.000
BH1	.382	.298	.110	.236	.000	-.037
BH2	.025	-.098	-.068	.043	.000	-.503
BH3	-.356	-.150	-.021	-.251	.000	.524
BR1	.154	.143	-.162	.104	.551	.000
BR2	-.115	-.107	.122	-.094	.015	.000
BR3	.034	.162	.005	.001	-.533	.000

0 MODIFICATION INDICES FOR BETA

	PI	BI	BCOM	BND SUP
PI	.000	38.580	3.315	.409
BI	.000	.000	18.417	.339
BCOM	.312	.000	.000	1.335
BND SUP	.383	1.335	.000	.000

Appendix V - LISREL Output from Full Involvement / Brand Support Model All Products Estimated Using Maximum Likelihood (cont.)

```
0        ESTIMATED CHANGE FOR BETA
0                 PI          BI          BCOM        BND SUP
+
              --------    --------    --------    --------
       PI       .000        .603        .170        .057
       BI       .000        .000       -.418        .042
     BCOM      -.029        .000        .000       -.117
  BND SUP      -.017        .059        .000        .000
0        MODIFICATION INDICES FOR GAMMA
0                 PS          PH          PU          BS          BH          BR
+
              --------    --------    --------    --------    --------    --------
       PI       .000        .000        .000        .148      16.681      31.642
       BI      4.705       9.868        .455        .000        .000        .000
     BCOM     13.465      12.935      11.081      11.323      19.842      22.422
  BND SUP     14.608       7.737       6.028       9.441        .845       3.263
0        ESTIMATED CHANGE FOR GAMMA
0                 PS          PH          PU          BS          BH          BR
+
              --------    --------    --------    --------    --------    --------
       PI       .000        .000        .000        .056        .345        .567
       BI      -.287       -.195       -.024        .000        .000        .000
     BCOM       .190        .198       -.125        .132        .351        .534
  BND SUP      -.117       -.085        .058       -.072        .041        .099
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0        MODIFICATION INDICES FOR THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+
              --------    --------    --------    --------    --------
              10.498      18.417        .000        .000        .000
0        ESTIMATED CHANGE FOR THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+
              --------    --------    --------    --------    --------
               -.367        .146        .000        .000        .000
0        MODIFICATION INDICES FOR THETA DELTA
0                PS1         PS2         PH1         PH2         PU1         BS1
+
              --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000      17.638       1.681
0        MODIFICATION INDICES FOR THETA DELTA
0                BH1         BH2         BH3         BR1         BR2         BR3
+
              --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000        .000        .000
0        ESTIMATED CHANGE FOR THETA DELTA
0                PS1         PS2         PH1         PH2         PU1         BS1
+
              --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000       7.785        .609
0        ESTIMATED CHANGE FOR THETA DELTA
0                BH1         BH2         BH3         BR1         BR2         BR3
+
              --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000        .000        .000
0       MAXIMUM MODIFICATION INDEX IS    38.58 FOR ELEMENT ( 1, 2) OF LAMBDA Y
-         THE PROBLEM USED     43224 BYTES (= 24.4% OF AVAILABLE WORKSPACE)
-                            TIME USED :     13.7 SECONDS
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares

```
1                              DOS - L I S R E L  7.16
0                                        BY
0                          KARL G JORESKOG AND DAG SORBOM


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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
 DA NI=17 NO=466   MA=CM
 CM FI=C:\MAINANAL\WAVE2\ALL8.CMT
 AC FI=C:\MAINANAL\WAVE2\ALL8.ACP
 SE
 3 4 1 2 17 8 9 5 14 15 16/
 MO NY=5 NX=6 NK=2 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PH' 'BR' /
 PA LX
 1(0 0) 2(1 0) 1(0 0) 2(0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(4,2)
 VA .046 TE 1
 VA .137 TE 2
 VA .002 TE 5
 OU ALL AD=30 ME=WL
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0                          NUMBER OF INPUT VARIABLES 17
0                          NUMBER OF Y - VARIABLES    5
0                          NUMBER OF X - VARIABLES    6
0                          NUMBER OF ETA - VARIABLES  4
0                          NUMBER OF KSI - VARIABLES  2
0                          NUMBER OF OBSERVATIONS   466
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0        COVARIANCE MATRIX TO BE ANALYZED
0               PINV       BINV      BCOM1      BCOM2       BSUP        PH1
+
```

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PINV	.932					
BINV	.613	.918				
BCOM1	.402	.469	.865			
BCOM2	.298	.421	.473	.878		
BSUP	-.100	-.106	-.135	-.121	.208	
PH1	.512	.370	.323	.275	-.111	.884
PH2	.258	.215	.211	.144	-.074	.488
PS1	.353	.282	.256	.251	-.117	.512
BR1	.267	.379	.355	.412	-.060	.312
BR2	.424	.582	.449	.435	-.082	.376
BR3	.318	.382	.272	.286	-.013	.308

```
0        COVARIANCE MATRIX TO BE ANALYZED
0               PH2        PS1        BR1        BR2        BR3
+
```

	PH2	PS1	BR1	BR2	BR3
PH2	.759				
PS1	.361	.854			
BR1	.174	.254	.917		
BR2	.191	.267	.425	.920	
BR3	.234	.233	.307	.481	.877

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0PARAMETER SPECIFICATIONS
0         LAMBDA Y
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
     PINV          0           0           0           0
     BINV          0           0           0           0
    BCOM1          0           0           0           0
    BCOM2          0           0           1           0
     BSUP          0           0           0           0
0         LAMBDA X
0                  PH          BR
+              ________    ________
      PH1          0           0
      PH2          2           0
      PS1          3           0
      BR1          0           0
      BR2          0           4
      BR3          0           5
0         BETA
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
       PI          0           0           0           0
       BI          6           0           0           0
     BCOM          0           7           0           0
  BND SUP          0           0           8           0
0         GAMMA
0                  PH          BR
+              ________    ________
       PI          9           0
       BI          0          10
     BCOM          0           0
  BND SUP          0           0
0         PHI
0                  PH          BR
+              ________    ________
       PH         11
       BR         12          13
0         PSI
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
                  14          15          16          17
0         THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+              ________    ________    ________    ________    ________
                   0           0          18          19           0
0         THETA DELTA
0                 PH1         PH2         PS1         BR1         BR2         BR3
+              ________    ________    ________    ________    ________    ________
                  20          21          22          23          24          25
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
     PINV       1.000        .000        .000        .000
     BINV        .000       1.000        .000        .000
    BCOM1        .000        .000       1.000        .000
    BCOM2        .000        .000        .946        .000
     BSUP        .000        .000        .000       1.000
0         LAMBDA X
0                  PH          BR
+              ________    ________
      PH1       1.000        .000
      PH2        .665        .000
      PS1        .745        .000
      BR1        .000       1.000
      BR2        .000       1.176
      BR3        .000        .929
0         BETA
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
       PI        .000        .000        .000        .000
       BI        .012        .000        .000        .000
     BCOM        .000        .842        .000        .000
  BND SUP        .000        .000       -.145        .000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        GAMMA
0                 PH          BR
+             --------    --------
     PI         .666        .000
     BI         .000       1.136
   BCOM         .000        .000
BND SUP         .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI          BI        BCOM     BND SUP          PH          BR
+             --------    --------    --------    --------    --------    --------
     PI         .886
     BI         .248        .772
   BCOM         .209        .650        .830
BND SUP        -.030       -.095       -.121        .196
     PH         .474        .362        .305       -.044        .712
     BR         .209        .436        .367       -.053        .314        .381
0        PSI
0                 PI          BI        BCOM     BND SUP
+             --------    --------    --------    --------
                .571        .274        .283        .178
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             --------    --------    --------    --------    --------
                .046        .137        .365        .431        .002
0        THETA DELTA
0                PH1         PH2         PS1         BR1         BR2         BR3
+             --------    --------    --------    --------    --------    --------
                .173        .444        .460        .535        .393        .548
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             --------    --------    --------    --------    --------
                .951        .849        .694        .633        .990
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PH1         PH2         PS1         BR1         BR2         BR3
+             --------    --------    --------    --------    --------    --------
                .805        .415        .462        .416        .573        .375
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .947
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI          BI        BCOM     BND SUP
+             --------    --------    --------    --------
                .356        .645        .659        .090
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .749
1         BEHAVIOR UNDER MINIMIZATION ITERATIONS
          ITER  TRY    ABSCISSA             SLOPE                FUNCTION
0            1    0     .00000000D+00       -.15986042D+01        .98225008D+00
                  1     .10000000D+01       -.50973762D-01        .20829073D+00
0            2    0     .00000000D+00       -.68942425D-01        .20829073D+00
                  1     .10000000D+01        .66482715D-01        .21172134D+00
                  2     .50908144D+00        .69481386D-02        .19333238D+00
                  3     .46247263D+00        .74540755D-03        .19315261D+00
0            3    0     .00000000D+00       -.75800550D-02        .19315261D+00
                  1     .46247263D+00       -.32462514D-02        .19063836D+00
                  2     .80888945D+00        .19205374D-03        .19010437D+00
0            4    0     .00000000D+00       -.28360664D-02        .19010437D+00
                  1     .80888945D+00       -.15865049D-02        .18830946D+00
                  2     .18358954D+01        .14601515D-03        .18755462D+00
0            5    0     .00000000D+00       -.11241733D-02        .18755462D+00
                  1     .18358954D+01        .34117871D-03        .18681781D+00
                  2     .14084429D+01       -.10642850D-04        .18674741D+00
0            6    0     .00000000D+00       -.42001845D-03        .18674741D+00
                  1     .14084429D+01       -.95299440D-04        .18638572D+00
                  2     .18217966D+01       -.19400433D-05        .18636565D+00
0            7    0     .00000000D+00       -.13215123D-03        .18636565D+00
                  1     .18217966D+01        .28483184D-05        .18624743D+00
0            8    0     .00000000D+00       -.27779805D-04        .18624743D+00
                  1     .18217966D+01        .18440192D-05        .18622379D+00
0            9    0     .00000000D+00       -.85709538D-05        .18622379D+00
                  1     .18217966D+01       -.23967236D-05        .18621380D+00
                  2     .25289848D+01       -.12785389D-08        .18621295D+00
0           10    0     .00000000D+00       -.41160652D-05        .18621295D+00
                  1     .25289848D+01       -.14170087D-05        .18620595D+00
                  2     .38567056D+01        .85325231D-08        .18620501D+00
0           11    0     .00000000D+00       -.15113395D-05        .18620501D+00
                  1     .38567056D+01        .14160407D-05        .18620483D+00
                  2     .19911290D+01       -.92518525D-09        .18620351D+00
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0              12    0      .00000000D+00     -.43817011D-06     .18620351D+00
                     1      .19911290D+01      .43263124D-08     .18620308D+00
0              13    0      .00000000D+00     -.12286050D-06     .18620308D+00
                     1      .19911290D+01      .31559542D-07     .18620299D+00
                     2      .15841927D+01      .31387839D-11     .18620298D+00
0              14    0      .00000000D+00     -.19930979D-07     .18620298D+00
                     1      .15841927D+01      .44468523D-09     .18620296D+00
0              15    0      .00000000D+00     -.21726275D-08     .18620296D+00
                     1      .15841927D+01     -.28498880D-09     .18620296D+00
                     2      .18233683D+01      .50559027D-14     .18620296D+00
0              16    0      .00000000D+00     -.33797641D-09     .18620296D+00
                     1      .18233683D+01      .77634925D-10     .18620296D+00
                     2      .14827687D+01      .64711872D-15     .18620296D+00
0              17    0      .00000000D+00     -.16413757D-10     .18620296D+00
                     1      .14827687D+01      .80855153D-11     .18620296D+00
                     2      .99340933D+00      .66840220D-17     .18620296D+00
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0LISREL ESTIMATES (WEIGHTED LEAST SQUARES)
0         LAMBDA Y
0                   PI          BI        BCOM     BND SUP
+               --------    --------    --------    --------
      PINV     1.000        .000        .000        .000
      BINV      .000       1.000        .000        .000
     BCOM1      .000        .000       1.000        .000
     BCOM2      .000        .000       1.039        .000
      BSUP      .000        .000        .000       1.000
0         LAMBDA X
0                   PH          BR
+               --------    --------
       PH1     1.000        .000
       PH2      .644        .000
       PS1      .752        .000
       BR1      .000       1.000
       BR2      .000       1.190
       BR3      .000        .899
0         BETA
0                   PI          BI        BCOM     BND SUP
+               --------    --------    --------    --------
        PI      .000        .000        .000        .000
        BI      .210        .000        .000        .000
      BCOM      .000        .806        .000        .000
   BND SUP      .000        .000       -.227        .000
0         GAMMA
0                   PH          BR
+               --------    --------
        PI      .817        .000
        BI      .000        .956
      BCOM      .000        .000
   BND SUP      .000        .000
0         COVARIANCE MATRIX OF ETA AND KSI
0                   PI          BI        BCOM     BND SUP          PH          BR
+               --------    --------    --------    --------    --------    --------
        PI      .768
        BI      .454        .617
      BCOM      .366        .498        .482
   BND SUP     -.083       -.113       -.109        .159
        PH      .540        .471        .380       -.086        .661
        BR      .306        .471        .380       -.086        .374        .426
0         PSI
0                   PI          BI        BCOM     BND SUP
+               --------    --------    --------    --------
                .327        .071        .081        .135
0         THETA EPS
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+               --------    --------    --------    --------    --------
                .046        .137        .345        .392        .002
0         THETA DELTA
0                  PH1         PH2         PS1         BR1         BR2         BR3
+               --------    --------    --------    --------    --------    --------
                .174        .412        .435        .426        .246        .448
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+               --------    --------    --------    --------    --------
                .943        .818        .583        .570        .988
0         TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               PH1         PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------    --------
               .792        .399        .462        .500        .711        .435
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .954
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0               PI          BI         BCOM      BND SUP
+          --------    --------    --------    --------
               .574        .885        .832        .155
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .913

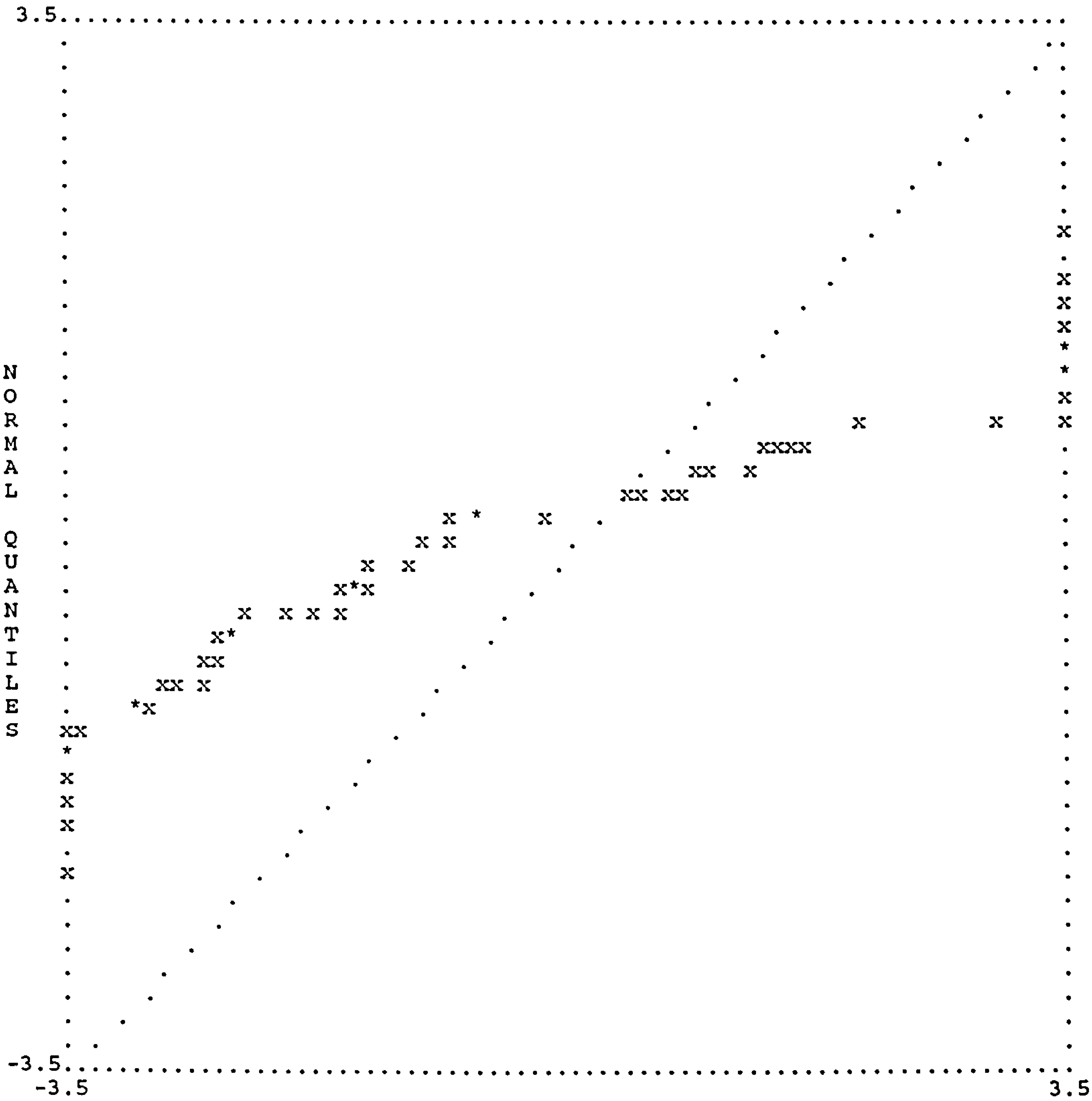

0         CHI-SQUARE WITH  41 DEGREES OF FREEDOM =   173.17 (P = .000)
0                      GOODNESS OF FIT INDEX = .931
              ADJUSTED GOODNESS OF FIT INDEX = .890
                   ROOT MEAN SQUARE RESIDUAL =       .064
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
0        FITTED COVARIANCE MATRIX
0              PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+          --------    --------    --------    --------    --------    --------
     PINV      .814
     BINV      .454        .754
    BCOM1      .366        .498        .827
    BCOM2      .380        .517        .501        .912
     BSUP     -.083       -.113       -.109       -.113        .161
      PH1      .540        .471        .380        .395       -.086        .835
      PH2      .347        .303        .245        .254       -.055        .425
      PS1      .406        .354        .286        .297       -.065        .497
      BR1      .306        .471        .380        .395       -.086        .374
      BR2      .364        .561        .452        .470       -.102        .445
      BR3      .275        .424        .342        .355       -.077        .337
0        FITTED COVARIANCE MATRIX
0               PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------
      PH2      .686
      PS1      .320        .808
      BR1      .241        .281        .851
      BR2      .287        .335        .507        .849
      BR3      .217        .253        .383        .456        .792
0        FITTED RESIDUALS
0              PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+          --------    --------    --------    --------    --------    --------
     PINV      .118
     BINV      .159        .163
    BCOM1      .036       -.028        .039
    BCOM2     -.082       -.096       -.028       -.034
     BSUP     -.017        .007       -.025       -.008        .047
      PH1     -.028       -.101       -.057       -.120       -.025        .050
      PH2     -.089       -.089       -.034       -.110       -.019        .063
      PS1     -.053       -.072       -.030       -.046       -.052        .015
      BR1     -.039       -.092       -.025        .017        .026       -.062
      BR2      .061        .021       -.003       -.035        .020       -.069
      BR3      .043       -.042       -.070       -.069        .065       -.028
0        FITTED RESIDUALS
0               PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------
      PH2      .073
      PS1      .041        .046
      BR1     -.067       -.027        .065
      BR2     -.095       -.068       -.081        .072
      BR3      .017       -.020       -.076        .025        .085
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =    -.120
   MEDIAN FITTED RESIDUAL =    -.026
  LARGEST FITTED RESIDUAL =     .163
-STEMLEAF PLOT
 - 1|21000
 - 0|99988877777766555
 - 0|4433333333333222210
   0|122222334444
   0|5556667778
   1|2
   1|66
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         STANDARDIZED RESIDUALS
0                PINV       BINV      BCOM1      BCOM2       BSUP        PH1
+            --------   --------   --------   --------   --------   --------
     PINV      12.136
     BINV       5.987     17.794
    BCOM1       1.412     -1.121      5.121
    BCOM2      -2.870     -4.210     -1.787     -4.141
     BSUP       -.985       .460     -2.422      -.648     16.713
      PH1      -1.411     -3.987     -2.564     -4.044     -1.475      5.653
      PH2      -3.619     -3.389     -1.365     -3.700     -1.042      3.012
      PS1      -1.981     -2.454     -1.074     -1.583     -2.760       .918
      BR1      -1.090     -3.027      -.830       .757      1.672     -2.386
      BR2       2.090       .780      -.128     -1.479      1.498     -3.050
      BR3       1.315     -1.577     -2.329     -2.450      3.860      -.980
0         STANDARDIZED RESIDUALS
0                 PH2        PS1        BR1        BR2        BR3
+            --------   --------   --------   --------   --------
      PH2       8.568
      PS1       1.591      5.779
      BR1      -2.245      -.854      7.968
      BR2      -3.683     -2.425     -2.901      8.148
      BR3        .552      -.620     -2.495      1.044     10.507
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =    -4.210
   MEDIAN STANDARDIZED RESIDUAL =    -1.058
  LARGEST STANDARDIZED RESIDUAL =    17.794
-STEMLEAF PLOT
 - 4|2100
 - 2|7764109986554444320
 - 0|866554411100098661
   0|56889034567
   2|109
   4|178
   6|0
   8|016
  10|5
  12|1
  14|
  16|78
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR     BCOM2 AND      PINV =   -2.870
0RESIDUAL FOR     BCOM2 AND      BINV =   -4.210
0RESIDUAL FOR     BCOM2 AND     BCOM2 =   -4.141
0RESIDUAL FOR       PH1 AND      BINV =   -3.987
0RESIDUAL FOR       PH1 AND     BCOM2 =   -4.044
0RESIDUAL FOR       PH2 AND      PINV =   -3.619
0RESIDUAL FOR       PH2 AND      BINV =   -3.389
0RESIDUAL FOR       PH2 AND     BCOM2 =   -3.700
0RESIDUAL FOR       PS1 AND      BSUP =   -2.760
0RESIDUAL FOR       BR1 AND      BINV =   -3.027
0RESIDUAL FOR       BR2 AND       PH1 =   -3.050
0RESIDUAL FOR       BR2 AND       PH2 =   -3.683
0RESIDUAL FOR       BR2 AND       BR1 =   -2.901
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR      PINV AND      PINV =   12.136
0RESIDUAL FOR      BINV AND      PINV =    5.987
0RESIDUAL FOR      BINV AND      BINV =   17.794
0RESIDUAL FOR     BCOM1 AND     BCOM1 =    5.121
0RESIDUAL FOR      BSUP AND      BSUP =   16.713
0RESIDUAL FOR       PH1 AND       PH1 =    5.653
0RESIDUAL FOR       PH2 AND       PH1 =    3.012
0RESIDUAL FOR       PH2 AND       PH2 =    8.568
0RESIDUAL FOR       PS1 AND       PS1 =    5.779
0RESIDUAL FOR       BR1 AND       BR1 =    7.968
0RESIDUAL FOR       BR2 AND       BR2 =    8.148
0RESIDUAL FOR       BR3 AND      BSUP =    3.860
0RESIDUAL FOR       BR3 AND       BR3 =   10.507
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
- QPLOT OF STANDARDIZED RESIDUALS



STANDARDIZED RESIDUALS

1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-STANDARD ERRORS

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.066	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X

	PH	BR
PH1	.000	.000
PH2	.045	.000
PS1	.049	.000
BR1	.000	.000
BR2	.000	.076
BR3	.000	.072

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.042	.000	.000	.000
BCOM	.000	.044	.000	.000
BND SUP	.000	.000	.029	.000

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

0 GAMMA

	PH	BR
PI	.043	.000
BI	.000	.085
BCOM	.000	.000
BND SUP	.000	.000

0 PHI

	PH	BR
PH	.048	
BR	.036	.052

0 PSI

PI	BI	BCOM	BND SUP
.034	.023	.027	.011

0 THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.000	.000	.034	.038	.000

0 THETA DELTA

PH1	PH2	PS1	BR1	BR2	BR3
.024	.033	.036	.050	.034	.033

1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS

0 CORRELATIONS OF ESTIMATES

	LY 4,3	LX 2,1	LX 3,1	LX 5,2	LX 6,2	BE 2,1
LY 4,3	1.000					
LX 2,1	-.182	1.000				
LX 3,1	-.043	.083	1.000			
LX 5,2	-.065	.053	-.048	1.000		
LX 6,2	-.073	.172	-.067	.605	1.000	
BE 2,1	.030	.091	-.024	.006	-.019	1.000
BE 3,2	-.457	.117	.005	-.059	-.072	-.020
BE 4,3	-.268	.074	-.118	.011	.122	-.050
GA 1,1	-.055	.088	.330	.136	.062	-.110
GA 2,2	-.095	.035	-.030	.587	.504	-.551
PH 1,1	-.026	-.209	-.364	-.042	.038	-.005
PH 2,1	-.079	-.201	-.073	-.481	-.423	-.050
PH 2,2	.023	-.093	.098	-.793	-.676	.023
PS 1,1	.031	-.086	-.133	-.131	-.121	.226
PS 2,2	.016	-.033	-.034	.024	-.018	.488
PS 3,3	-.162	-.027	.002	.019	.091	-.121
PS 4,4	-.014	-.017	.058	.050	.044	-.011
TE 3,3	.447	-.087	-.023	.019	-.052	.036
TE 4,4	-.478	.114	-.053	.069	.047	-.114
TD 1,1	.006	.366	.371	.100	.053	.017
TD 2,2	.112	-.513	-.000	.002	-.083	-.006
TD 3,3	.027	.001	-.613	.060	-.010	.014
TD 4,4	-.043	.063	-.046	.709	.578	-.050
TD 5,5	.026	.051	-.078	-.292	.098	-.083
TD 6,6	.040	-.053	-.001	.058	-.379	-.134

0 CORRELATIONS OF ESTIMATES

	BE 3,2	BE 4,3	GA 1,1	GA 2,2	PH 1,1	PH 2,1
BE 3,2	1.000					
BE 4,3	.118	1.000				
GA 1,1	-.157	.053	1.000			
GA 2,2	-.190	.058	.199	1.000		
PH 1,1	-.051	-.202	-.363	-.008	1.000	
PH 2,1	-.024	-.153	-.046	-.390	.569	1.000
PH 2,2	.027	-.018	-.029	-.671	.118	.662
PS 1,1	.019	-.037	-.433	-.229	.026	.038
PS 2,2	.059	-.041	-.118	-.544	.029	.032
PS 3,3	-.311	.179	.070	.123	.027	.082
PS 4,4	-.015	-.021	.011	.023	.051	.004
TE 3,3	-.365	-.164	-.002	.009	-.126	-.101
TE 4,4	.125	-.022	-.018	.179	.103	.040
TD 1,1	-.000	-.014	.383	.060	-.530	-.259
TD 2,2	-.084	-.051	-.067	-.031	.166	.144
TD 3,3	.005	.036	-.085	.025	.059	-.023
TD 4,4	-.047	.037	.116	.608	.006	-.382
TD 5,5	-.036	.088	.005	.140	.092	.030
TD 6,6	.022	-.065	-.017	.101	-.059	-.082

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0         CORRELATIONS OF ESTIMATES
0              PH 2,2     PS 1,1     PS 2,2     PS 3,3     PS 4,4     TE 3,3
+            --------   --------   --------   --------   --------   --------
   PH 2,2      1.000
   PS 1,1       .148      1.000
   PS 2,2       .118       .202      1.000
   PS 3,3       .010       .018      -.188      1.000
   PS 4,4      -.047      -.044       .095       .037      1.000
   TE 3,3      -.008       .068      -.018      -.291      -.137      1.000
   TE 4,4      -.088      -.062      -.072      -.295      -.018      -.058
   TD 1,1      -.079      -.123       .002      -.105      -.048       .091
   TD 2,2       .009       .062       .020       .043       .079       .017
   TD 3,3      -.047       .152       .013      -.023      -.024       .043
   TD 4,4      -.705      -.061      -.120      -.024       .039       .089
   TD 5,5      -.037      -.045      -.225      -.031      -.072       .007
   TD 6,6       .001       .071      -.099      -.080      -.006       .106
0         CORRELATIONS OF ESTIMATES
0              TE 4,4     TD 1,1     TD 2,2     TD 3,3     TD 4,4     TD 5,5
+            --------   --------   --------   --------   --------   --------
   TE 4,4      1.000
   TD 1,1       .038      1.000
   TD 2,2      -.044      -.146      1.000
   TD 3,3       .019      -.018       .118      1.000
   TD 4,4       .078       .104       .027       .135      1.000
   TD 5,5       .071      -.042      -.056       .028       .113      1.000
   TD 6,6       .016       .020       .085       .131       .066      -.143
0         CORRELATIONS OF ESTIMATES
0              TD 6,6
+            --------
   TD 6,6      1.000
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-T-VALUES
0         LAMBDA Y
0                  PI         BI       BCOM    BND SUP
+            --------   --------   --------   --------
     PINV       .000       .000       .000       .000
     BINV       .000       .000       .000       .000
    BCOM1       .000       .000       .000       .000
    BCOM2       .000       .000     15.718       .000
     BSUP       .000       .000       .000       .000
0         LAMBDA X
0                  PH         BR
+            --------   --------
      PH1       .000       .000
      PH2     14.311       .000
      PS1     15.297       .000
      BR1       .000       .000
      BR2       .000     15.581
      BR3       .000     12.463
0         BETA
0                  PI         BI       BCOM    BND SUP
+            --------   --------   --------   --------
       PI       .000       .000       .000       .000
       BI      4.989       .000       .000       .000
     BCOM       .000     18.509       .000       .000
  BND SUP       .000       .000     -7.741       .000
0         GAMMA
0                  PH         BR
+            --------   --------
       PI     18.944       .000
       BI       .000     11.295
     BCOM       .000       .000
  BND SUP       .000       .000
0         PHI
0                  PH         BR
+            --------   --------
       PH     13.737
       BR     10.451      8.235
0         PSI
0                  PI         BI       BCOM    BND SUP
+            --------   --------   --------   --------
               9.519      3.107      2.975     12.331
0         THETA EPS
0                PINV       BINV      BCOM1      BCOM2       BSUP
+            --------   --------   --------   --------   --------
                .000       .000     10.109     10.438       .000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0          THETA DELTA
0                    PH1          PH2          PS1          BR1          BR2          BR3
+               ________     ________     ________     ________     ________     ________
                   7.290       12.587       12.191        8.480        7.265       13.494
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-TOTAL AND INDIRECT EFFECTS
0          TOTAL EFFECTS OF KSI ON  ETA
0                     PH           BR
+               ________     ________
        PI          .817         .000
        BI          .172         .956
      BCOM          .139         .771
   BND SUP         -.031        -.175
0          STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                     PH           BR
+               ________     ________
        PI          .043         .000
        BI          .035         .085
      BCOM          .028         .073
   BND SUP          .008         .026
0          INDIRECT EFFECTS OF KSI ON  ETA
0                     PH           BR
+               ________     ________
        PI          .000         .000
        BI          .172         .000
      BCOM          .139         .771
   BND SUP         -.031        -.175
0          STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                     PH           BR
+               ________     ________
        PI          .000         .000
        BI          .035         .000
      BCOM          .028         .073
   BND SUP          .008         .026
0          TOTAL EFFECTS OF ETA ON  ETA
0                     PI           BI         BCOM      BND SUP
+               ________     ________     ________     ________
        PI          .000         .000         .000         .000
        BI          .210         .000         .000         .000
      BCOM          .170         .806         .000         .000
   BND SUP         -.038        -.183        -.227         .000
0    LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .650
0          STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  ETA
0                     PI           BI         BCOM      BND SUP
+               ________     ________     ________     ________
        PI          .000         .000         .000         .000
        BI          .042         .000         .000         .000
      BCOM          .035         .044         .000         .000
   BND SUP          .009         .024         .029         .000
0          INDIRECT EFFECTS OF ETA ON  ETA
0                     PI           BI         BCOM      BND SUP
+               ________     ________     ________     ________
        PI          .000         .000         .000         .000
        BI          .000         .000         .000         .000
      BCOM          .170         .000         .000         .000
   BND SUP         -.038        -.183         .000         .000
0          STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  ETA
0                     PI           BI         BCOM      BND SUP
+               ________     ________     ________     ________
        PI          .000         .000         .000         .000
        BI          .000         .000         .000         .000
      BCOM          .035         .000         .000         .000
   BND SUP          .009         .024         .000         .000
0          TOTAL EFFECTS OF ETA ON  Y
0                     PI           BI         BCOM      BND SUP
+               ________     ________     ________     ________
      PINV         1.000         .000         .000         .000
      BINV          .210        1.000         .000         .000
     BCOM1          .170         .806        1.000         .000
     BCOM2          .176         .838        1.039         .000
      BSUP         -.038        -.183        -.227        1.000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  Y
0                  PI          BI         BCOM     BND SUP
+
     PINV         .000        .000        .000       .000
     BINV         .042        .000        .000       .000
    BCOM1         .035        .044        .000       .000
    BCOM2         .037        .052        .066       .000
     BSUP         .009        .024        .029       .000
0        INDIRECT EFFECTS OF ETA ON  Y
0                  PI          BI         BCOM     BND SUP
+
     PINV         .000        .000        .000       .000
     BINV         .210        .000        .000       .000
    BCOM1         .170        .806        .000       .000
    BCOM2         .176        .838        .000       .000
     BSUP        -.038       -.183       -.227       .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  Y
0                  PI          BI         BCOM     BND SUP
+
     PINV         .000        .000        .000       .000
     BINV         .042        .000        .000       .000
    BCOM1         .035        .044        .000       .000
    BCOM2         .037        .052        .000       .000
     BSUP         .009        .024        .029       .000
0        TOTAL EFFECTS OF KSI ON  Y
0                  PH          BR
+
     PINV         .817        .000
     BINV         .172        .956
    BCOM1         .139        .771
    BCOM2         .144        .801
     BSUP        -.031       -.175
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  Y
0                  PH          BR
+
     PINV         .043        .000
     BINV         .035        .085
    BCOM1         .028        .073
    BCOM2         .030        .075
     BSUP         .008        .026
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-COVARIANCES
0        Y - ETA
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+
        PI        .768        .454        .366        .380       -.083
        BI        .454        .617        .498        .517       -.113
      BCOM        .366        .498        .482        .501       -.109
   BND SUP       -.083       -.113       -.109       -.113        .159
0        Y - KSI
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+
        PH        .540        .471        .380        .395       -.086
        BR        .306        .471        .380        .395       -.086
0        X - ETA
0                  PH1         PH2         PS1         BR1         BR2         BR3
+
        PI        .540        .347        .406        .306        .364        .275
        BI        .471        .303        .354        .471        .561        .424
      BCOM        .380        .245        .286        .380        .452        .342
   BND SUP       -.086       -.055       -.065       -.086       -.102       -.077
0        X - KSI
0                  PH1         PH2         PS1         BR1         BR2         BR3
+
        PH        .661        .425        .497        .374        .445        .337
        BR        .374        .241        .281        .426        .507        .383
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-FIRST ORDER DERIVATIVES
0        LAMBDA Y
0                  PI          BI         BCOM     BND SUP
+
     PINV         .000       -.085       -.060       .032
     BINV        -.081        .000        .019      -.018
    BCOM1        -.035       -.003        .000       .012
    BCOM2         .174       -.002        .000       .018
     BSUP         .200       -.022        .000       .000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        LAMBDA X
0                     PH            BR
+               ________      ________
      PH1           .000          .065
      PH2           .000          .016
      PS1           .000         -.016
      BR1          -.065          .000
      BR2           .073          .000
      BR3          -.096          .000
0        BETA
0                     PI            BI          BCOM       BND SUP
+               ________      ________      ________      ________
       PI           .000         -.085         -.056          .033
       BI           .000          .000          .019          .006
     BCOM           .100          .000          .000          .030
  BND SUP           .200         -.022          .000          .000
0        GAMMA
0                     PH            BR
+               ________      ________
       PI           .000         -.077
       BI           .068          .000
     BCOM           .059         -.039
  BND SUP           .183         -.073
0        PHI
0                     PH            BR
+               ________      ________
       PH           .000
       BR           .000          .000
0        PSI
0                     PI            BI          BCOM       BND SUP
+               ________      ________      ________      ________
                    .000          .000          .000          .000
0        THETA EPS
0                   PINV          BINV         BCOM1         BCOM2          BSUP
+               ________      ________      ________      ________      ________
                    .036         -.186          .000          .000          .000
0        THETA DELTA
0                    PH1           PH2           PS1           BR1           BR2           BR3
+               ________      ________      ________      ________      ________      ________
                    .000          .000          .000          .000          .000          .000
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-FACTOR SCORES REGRESSIONS
0        ETA
0                   PINV          BINV         BCOM1         BCOM2          BSUP           PH1
+               ________      ________      ________      ________      ________      ________
       PI          1.206          .180         -.510         -.028         -.354         -.258
       BI           .092          .425          .092          .084         -.052          .038
     BCOM           .050          .231          .207          .189         -.119          .021
  BND SUP          -.000         -.001         -.001         -.001          .986          .000
0        ETA
0                    PH2           PS1           BR1           BR2           BR3
+               ________      ________      ________      ________      ________
       PI          -.251         -.158          .139         -.119         -.400
       BI           .010          .011          .068          .139          .058
     BCOM           .006          .006          .037          .076          .031
  BND SUP           .000          .000         -.000         -.000         -.000
0        KSI
0                   PINV          BINV         BCOM1         BCOM2          BSUP           PH1
+               ________      ________      ________      ________      ________      ________
       PH           .163          .048          .010          .010         -.006          .459
       BR          -.030          .210          .045          .041         -.026          .058
0        KSI
0                    PH2           PS1           BR1           BR2           BR3
+               ________      ________      ________      ________      ________
       PH           .124          .138          .024          .049          .020
       BR           .016          .018          .121          .250          .104
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-STANDARDIZED SOLUTION
0        LAMBDA Y
0                     PI            BI          BCOM       BND SUP
+               ________      ________      ________      ________
     PINV           .876          .000          .000          .000
     BINV           .000          .786          .000          .000
    BCOM1           .000          .000          .694          .000
    BCOM2           .000          .000          .721          .000
     BSUP           .000          .000          .000          .399
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        LAMBDA X
0                 PH          BR
+              --------    --------
      PH1        .813        .000
      PH2        .523        .000
      PS1        .611        .000
      BR1        .000        .652
      BR2        .000        .777
      BR3        .000        .587
0        BETA
0                 PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
       PI        .000        .000        .000        .000
       BI        .235        .000        .000        .000
     BCOM        .000        .912        .000        .000
  BND SUP        .000        .000       -.394        .000
0        GAMMA
0                 PH          BR
+              --------    --------
       PI        .758        .000
       BI        .000        .794
     BCOM        .000        .000
  BND SUP        .000        .000
0        CORRELATION MATRIX OF ETA AND KSI
0                 PI          BI        BCOM     BND SUP          PH          BR
+              --------    --------    --------    --------    --------    --------
       PI       1.000
       BI        .659       1.000
     BCOM        .602        .912       1.000
  BND SUP       -.237       -.360       -.394       1.000
       PH        .758        .738        .673       -.265       1.000
       BR        .535        .920        .839       -.331        .706       1.000
0        PSI
0                 PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
                 .426        .115        .168        .845
0        REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0                 PH          BR
+              --------    --------
       PI        .758        .000
       BI        .178        .794
     BCOM        .162        .724
  BND SUP       -.064       -.285
1SIMPLIFIED INV. / BS MODEL ALL PRODUCTS USING WLS
-MODIFICATION INDICES AND ESTIMATED CHANGE
0        MODIFICATION INDICES FOR LAMBDA Y
0                 PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
     PINV        .000      23.625      11.889       1.465
     BINV       6.430        .000       7.255        .550
    BCOM1        .965        .712        .000        .256
    BCOM2      19.820        .256        .000        .712
     BSUP       7.031       1.845        .000        .000
0        ESTIMATED CHANGE FOR LAMBDA Y
0                 PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
     PINV        .000        .595        .426       -.098
     BINV        .172        .000       -.836        .064
    BCOM1        .059        .499        .000       -.047
    BCOM2       -.246        .290        .000       -.087
     BSUP       -.076        .178        .000        .000
0        MODIFICATION INDICES FOR LAMBDA X
0                 PH          BR
+              --------    --------
      PH1        .000       7.685
      PH2        .000        .322
      PS1        .000        .530
      BR1       6.923        .000
      BR2       7.216        .000
      BR3      14.269        .000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model All Products Estimated Using Weighted Least Squares (cont.)

```
0        ESTIMATED CHANGE FOR LAMBDA X
0                  PH          BR
+              ________    ________
      PH1        .000       -.255
      PH2        .000       -.043
      PS1        .000        .069
      BR1        .230        .000
      BR2       -.213        .000
      BR3        .319        .000
0        MODIFICATION INDICES FOR BETA
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
       PI        .000      23.625      10.770       1.868
       BI        .000        .000       7.255        .053
     BCOM       6.430        .000        .000       1.845
  BND SUP       7.031       1.845        .000        .000
0        ESTIMATED CHANGE FOR BETA
0                  PI          BI        BCOM     BND SUP
+              ________    ________    ________    ________
       PI        .000        .595        .413       -.120
       BI        .000        .000       -.836       -.020
     BCOM       -.138        .000        .000       -.133
  BND SUP       -.076        .178        .000        .000
0        MODIFICATION INDICES FOR GAMMA
0                  PH          BR
+              ________    ________
       PI        .000      20.933
       BI       7.674        .000
     BCOM       3.784      26.060
  BND SUP      14.641       8.323
0        ESTIMATED CHANGE FOR GAMMA
0                  PH          BR
+              ________    ________
       PI        .000        .586
       BI       -.244        .000
     BCOM       -.137       1.432
  BND SUP       -.172        .246
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0        MODIFICATION INDICES FOR THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+              ________    ________    ________    ________    ________
                7.674       7.254        .000        .000        .000
0        ESTIMATED CHANGE FOR THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+              ________    ________    ________    ________    ________
                -.464        .084        .000        .000        .000
0NO NON-ZERO MODIFICATION INDICES FOR THETA DELTA
0       MAXIMUM MODIFICATION INDEX IS    26.06 FOR ELEMENT ( 3, 2) OF GAMMA
-         THE PROBLEM USED    109136 BYTES (= 41.6% OF AVAILABLE WORKSPACE)
-                         TIME USED :    154.8 SECONDS
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood

```
1                              DOS - L I S R E L  7.16
0                                          BY
0                            KARL G JORESKOG AND DAG SORBOM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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
 DA NI=17 NO=150   MA=CM
 CM FI=C:\MAINANAL\WAVE2\NN8.CMT
 SE
 3 4 1 2 17 8 9 5 14 15 16/
 MO NY=5 NX=6 NK=2 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PH' 'BR' /
 PA LX
 1(0 0) 2(1 0) 1(0 0) 2(0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(4,2)
 VA .046 TE 1
 VA .137 TE 2
 VA .002 TE 5
 OU ALL AD=30 ME=ML
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0                         NUMBER OF INPUT VARIABLES 17
0                         NUMBER OF Y - VARIABLES    5
0                         NUMBER OF X - VARIABLES    6
0                         NUMBER OF ETA - VARIABLES  4
0                         NUMBER OF KSI - VARIABLES  2
0                         NUMBER OF OBSERVATIONS   150
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0        COVARIANCE MATRIX TO BE ANALYZED
```

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PINV	.927					
BINV	.579	.879				
BCOM1	.431	.385	.789			
BCOM2	.306	.401	.394	.918		
BSUP	-.097	-.133	-.184	-.092	.247	
PH1	.573	.420	.300	.219	-.062	.924
PH2	.234	.199	.183	.015	-.053	.439
PS1	.318	.304	.185	.200	-.027	.569
BR1	.179	.269	.223	.284	-.000	.302
BR2	.399	.528	.382	.431	-.091	.398
BR3	.240	.245	.177	.148	-.017	.294

```
0        COVARIANCE MATRIX TO BE ANALYZED
```

	PH2	PS1	BR1	BR2	BR3
PH2	.835				
PS1	.356	.905			
BR1	.130	.283	.904		
BR2	.136	.355	.346	.903	
BR3	.224	.242	.230	.448	.889

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0PARAMETER SPECIFICATIONS
0         LAMBDA Y
0                  PI          BI          BCOM     BND SUP
+             ________    ________    ________    ________
     PINV          0           0           0           0
     BINV          0           0           0           0
    BCOM1          0           0           0           0
    BCOM2          0           0           1           0
     BSUP          0           0           0           0
0         LAMBDA X
0                  PH          BR
+             ________    ________
      PH1          0           0
      PH2          2           0
      PS1          3           0
      BR1          0           0
      BR2          0           4
      BR3          0           5
0         BETA
0                  PI          BI          BCOM     BND SUP
+             ________    ________    ________    ________
       PI          0           0           0           0
       BI          6           0           0           0
     BCOM          0           7           0           0
  BND SUP          0           0           8           0
0         GAMMA
0                  PH          BR
+             ________    ________
       PI          9           0
       BI          0          10
     BCOM          0           0
  BND SUP          0           0
0         PHI
0                  PH          BR
+             ________    ________
       PH         11
       BR         12          13
0         PSI
0                  PI          BI          BCOM     BND SUP
+             ________    ________    ________    ________
                  14          15          16          17
0         THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+             ________    ________    ________    ________    ________
                   0           0          18          19           0
0         THETA DELTA
0                 PH1         PH2         PS1         BR1         BR2         BR3
+             ________    ________    ________    ________    ________    ________
                  20          21          22          23          24          25
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                  PI          BI          BCOM     BND SUP
+             ________    ________    ________    ________
     PINV      1.000        .000        .000        .000
     BINV       .000       1.000        .000        .000
    BCOM1       .000        .000       1.000        .000
    BCOM2       .000        .000        .966        .000
     BSUP       .000        .000        .000       1.000
0         LAMBDA X
0                  PH          BR
+             ________    ________
      PH1      1.000        .000
      PH2       .579        .000
      PS1       .844        .000
      BR1       .000       1.000
      BR2       .000       1.510
      BR3       .000        .993
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        BETA
0                 PI           BI          BCOM      BND SUP
+          ________     ________     ________     ________
      PI       .000         .000         .000         .000
      BI       .264         .000         .000         .000
    BCOM       .000         .772         .000         .000
 BND SUP       .000         .000        -.142         .000
0        GAMMA
0                 PH           BR
+          ________     ________
      PI       .675         .000
      BI       .000         .945
    BCOM       .000         .000
 BND SUP       .000         .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI           BI          BCOM      BND SUP           PH           BR
+          ________     ________     ________     ________     ________     ________
      PI       .881
      BI       .409         .652
    BCOM       .316         .504         .622
 BND SUP      -.045        -.072        -.088         .226
      PH       .477         .387         .299        -.042         .706
      BR       .186         .293         .226        -.032         .276         .258
0        PSI
0                 PI           BI          BCOM      BND SUP
+          ________     ________     ________     ________
               .559         .267         .233         .213
0        THETA EPS
0               PINV         BINV         BCOM1        BCOM2         BSUP
+          ________     ________     ________     ________     ________
               .046         .137         .380         .537         .002
0        THETA DELTA
0                PH1          PH2          PS1          BR1          BR2          BR3
+          ________     ________     ________     ________     ________     ________
               .218         .599         .401         .646         .315         .635
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV         BINV         BCOM1        BCOM2         BSUP
+          ________     ________     ________     ________     ________
               .950         .826         .621         .519         .991
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PH1          PH2          PS1          BR1          BR2          BR3
+          ________     ________     ________     ________     ________     ________
               .764         .283         .556         .285         .651         .286
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .938
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI           BI          BCOM      BND SUP
+          ________     ________     ________     ________
               .366         .590         .625         .056
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .633
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY   ABSCISSA          SLOPE               FUNCTION
0             1    0    .00000000D+00    -.19945111D+00      .37534019D+00
                   1    .10000000D+01    -.10323151D-01      .26772640D+00
0             2    0    .00000000D+00    -.22326549D-01      .26772640D+00
                   1    .10000000D+01     .53998170D-02      .25907331D+00
                   2    .80524613D+00    -.22867116D-03      .25857269D+00
0             3    0    .00000000D+00    -.41480835D-02      .25857269D+00
                   1    .80524613D+00     .29268248D-03      .25685640D+00
0             4    0    .00000000D+00    -.90111925D-03      .25685640D+00
                   1    .80524613D+00    -.23529969D-03      .25639982D+00
                   2    .10898190D+01    -.33879184D-05      .25636590D+00
0             5    0    .00000000D+00    -.15923412D-03      .25636590D+00
                   1    .10898190D+01    -.42310119D-04      .25625550D+00
                   2    .14841809D+01     .19379918D-05      .25624750D+00
0             6    0    .00000000D+00    -.51837585D-04      .25624750D+00
                   1    .14841809D+01    -.10497402D-04      .25620142D+00
                   2    .18610549D+01    -.22191185D-06      .25619940D+00
0             7    0    .00000000D+00    -.15240248D-04      .25619940D+00
                   1    .18610549D+01     .23066100D-05      .25618733D+00
                   2    .16164113D+01    -.14877191D-07      .25618705D+00
0             8    0    .00000000D+00    -.27368232D-05      .25618705D+00
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
                    1      .16164113D+01      .18692127D-05      .25618634D+00
                    2      .96044231D+00     -.14703896D-08      .25618573D+00
0               9   0      .00000000D+00     -.23705600D-06      .25618573D+00
                    1      .96044231D+00     -.33238247D-07      .25618560D+00
                    2      .11170696D+01     -.13623761D-10      .25618560D+00
0              10   0      .00000000D+00     -.21108182D-07      .25618560D+00
                    1      .11170696D+01      .51598586D-08      .25618559D+00
                    2      .89764244D+00      .42088805D-12      .25618559D+00
0              11   0      .00000000D+00     -.99290701D-09      .25618559D+00
                    1      .89764244D+00     -.72562483D-10      .25618559D+00
0              12   0      .00000000D+00     -.55259818D-10      .25618559D+00
                    1      .89764244D+00     -.19978186D-11      .25618559D+00
0              13   0      .00000000D+00     -.24839911D-11      .25618559D+00
                    1      .89764244D+00      .84350276D-13      .25618559D+00
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0        LAMBDA Y
0                  PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
    PINV       1.000        .000        .000        .000
    BINV        .000       1.000        .000        .000
   BCOM1        .000        .000       1.000        .000
   BCOM2        .000        .000        .845        .000
    BSUP        .000        .000        .000       1.000
0        LAMBDA X
0                  PH          BR
+              --------    --------
     PH1       1.000        .000
     PH2        .530        .000
     PS1        .697        .000
     BR1        .000       1.000
     BR2        .000       2.013
     BR3        .000       1.201
0        BETA
0                  PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
      PI        .000        .000        .000        .000
      BI        .464        .000        .000        .000
    BCOM        .000        .598        .000        .000
 BND SUP        .000        .000       -.326        .000
0        GAMMA
0                  PH          BR
+              --------    --------
      PI        .688        .000
      BI        .000        .953
    BCOM        .000        .000
 BND SUP        .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                  PI          BI        BCOM     BND SUP          PH          BR
+              --------    --------    --------    --------    --------    --------
      PI        .882
      BI        .548        .698
    BCOM        .328        .418        .468
 BND SUP       -.107       -.136       -.152        .244
      PH        .563        .463        .277       -.090        .818
      BR        .146        .241        .144       -.047        .212        .182
0        PSI
0                  PI          BI        BCOM     BND SUP
+              --------    --------    --------    --------
                .494        .214        .218        .194
0        THETA EPS
0                PINV        BINV       BCOM1       BCOM2        BSUP
+              --------    --------    --------    --------    --------
                .046        .137        .309        .576        .002
0        THETA DELTA
0                 PH1         PH2         PS1         BR1         BR2         BR3
+              --------    --------    --------    --------    --------    --------
                .106        .606        .508        .722        .165        .626
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0                PINV        BINV       BCOM1       BCOM2        BSUP
+              --------    --------    --------    --------    --------
                .950        .836        .602        .367        .992
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PH1          PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------     --------
                .885         .275         .439         .202         .818         .296
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS    .979
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI           BI         BCOM      BND SUP
+            --------     --------     --------     --------
                .439         .694         .535         .204
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .665


0         CHI-SQUARE WITH  41 DEGREES OF FREEDOM =     76.34 (P = .001)
0                      GOODNESS OF FIT INDEX = .918
              ADJUSTED GOODNESS OF FIT INDEX = .868
                   ROOT MEAN SQUARE RESIDUAL =      .056
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
0        FITTED COVARIANCE MATRIX
0               PINV         BINV        BCOM1        BCOM2         BSUP          PH1
+            --------     --------     --------     --------     --------     --------
     PINV       .928
     BINV       .548         .835
    BCOM1       .328         .418         .777
    BCOM2       .277         .353         .395         .910
     BSUP      -.107        -.136        -.152        -.129         .246
      PH1       .563         .463         .277         .234        -.090         .924
      PH2       .298         .245         .147         .124        -.048         .433
      PS1       .392         .323         .193         .163        -.063         .570
      BR1       .146         .241         .144         .122        -.047         .212
      BR2       .294         .486         .291         .246        -.095         .427
      BR3       .175         .290         .174         .147        -.057         .255
0        FITTED COVARIANCE MATRIX
0                PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------
      PH2       .835
      PS1       .302         .905
      BR1       .112         .148         .904
      BR2       .226         .297         .367         .903
      BR3       .135         .177         .219         .441         .889
0        FITTED RESIDUALS
0               PINV         BINV        BCOM1        BCOM2         BSUP          PH1
+            --------     --------     --------     --------     --------     --------
     PINV      -.000
     BINV       .031         .044
    BCOM1       .103        -.032         .012
    BCOM2       .029         .048        -.001         .008
     BSUP       .010         .003        -.031         .037         .001
      PH1       .010        -.043         .023        -.015         .029         .000
      PH2      -.064        -.046         .037        -.109        -.005         .006
      PS1      -.074        -.019        -.008         .036         .036        -.001
      BR1       .033         .027         .079         .162         .047         .090
      BR2       .106         .042         .091         .186         .004        -.029
      BR3       .065        -.045         .004         .001         .039         .039
0        FITTED RESIDUALS
0                PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------
      PH2       .000
      PS1       .054         .000
      BR1       .018         .135         .000
      BR2      -.090         .057        -.020         .000
      BR3       .089         .064         .011         .007         .000
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =    -.109
   MEDIAN FITTED RESIDUAL =     .010
  LARGEST FITTED RESIDUAL =     .186
-STEMLEAF PLOT
 - 1|1
 - 0|97655
 - 0|43332221000000000000000
   0|11111112233333344444444
   0|5556668999
   1|014
   1|69
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

0 STANDARDIZED RESIDUALS

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PINV	.000					
BINV	1.755	3.058				
BCOM1	2.619	-2.060	.337			
BCOM2	.590	1.917	-.056	.160		
BSUP	.344	.185	-2.670	1.626	2.378	
PH1	1.915	-1.462	.488	-.277	.909	.000
PH2	-1.549	-.977	.649	-1.717	-.141	.827
PS1	-2.219	-.438	-.147	.578	1.046	-.152
BR1	.517	.623	1.376	2.467	1.315	1.735
BR2	2.350	2.031	2.135	3.564	.143	-2.495
BR3	1.088	-1.197	.068	.023	1.146	.846

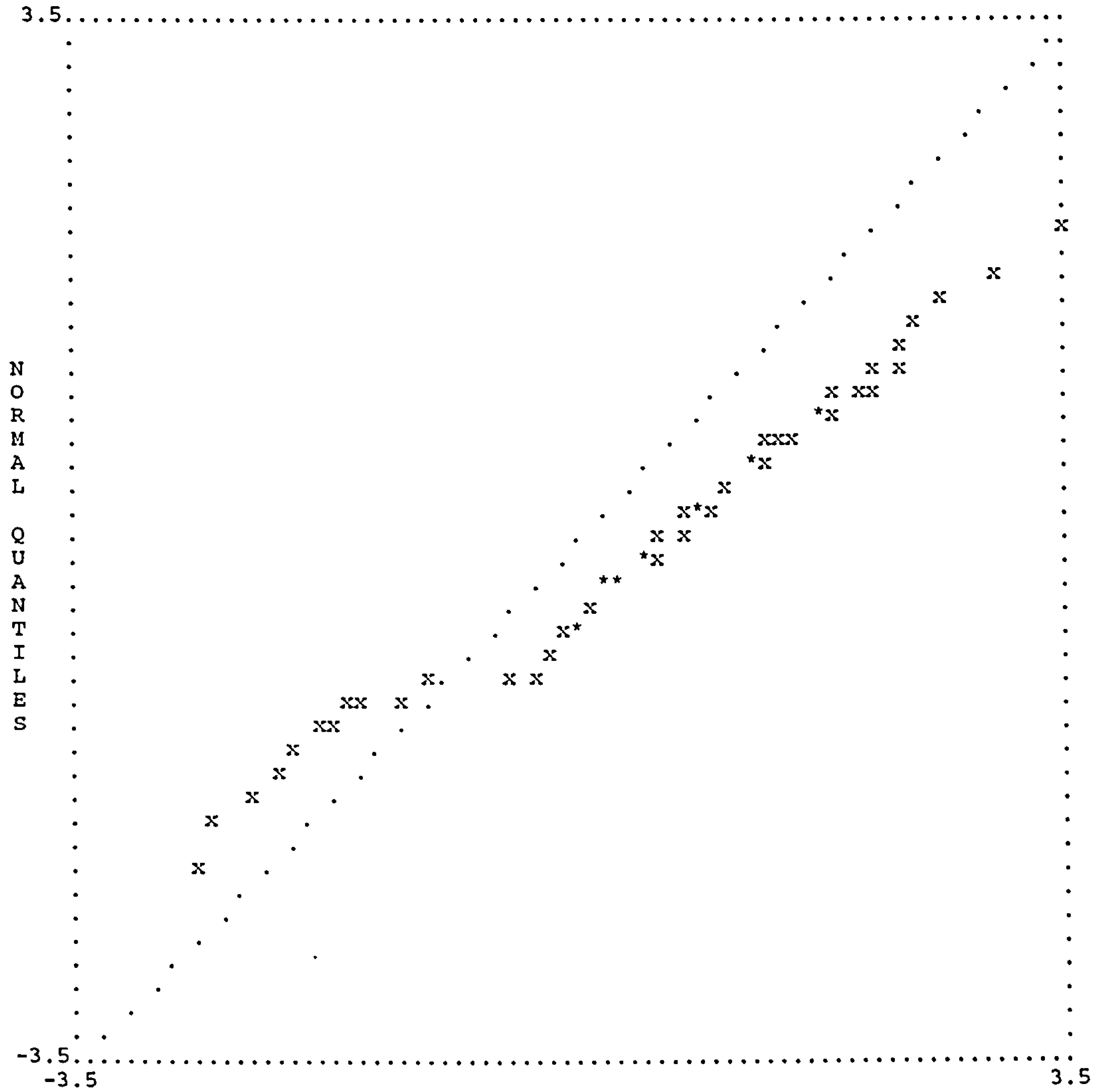
0 STANDARDIZED RESIDUALS

	PH2	PS1	BR1	BR2	BR3
PH2	.000				
PS1	1.361	.000			
BR1	.277	2.183	.000		
BR2	-1.818	1.332	-1.931	.000	
BR3	1.469	1.106	.219	.933	.000

-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
SMALLEST STANDARDIZED RESIDUAL = -2.670
MEDIAN STANDARDIZED RESIDUAL = .416
LARGEST STANDARDIZED RESIDUAL = 3.564
-STEMLEAF PLOT
- 2|7521
- 1|9875520
- 0|43211100000000
0|11222333556666 8899
1|01113344567899
2|0123456
3|16
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR BSUP AND BCOM1 = -2.670
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR BINV AND BINV = 3.058
0RESIDUAL FOR BCOM1 AND PINV = 2.619
0RESIDUAL FOR BR2 AND BCOM2 = 3.564

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
- QPLOT OF STANDARDIZED RESIDUALS



1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-STANDARD ERRORS
0 LAMBDA Y
0

+	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.145	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X
0

+	PH	BR
PH1	.000	.000
PH2	.082	.000
PS1	.084	.000
BR1	.000	.000
BR2	.000	.408
BR3	.000	.270

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

0 BETA

0

+	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.062	.000	.000	.000
BCOM	.000	.079	.000	.000
BND SUP	.000	.000	.071	.000

0 GAMMA

0

+	PH	BR
PI	.085	.000
BI	.000	.218
BCOM	.000	.000
BND SUP	.000	.000

0 PHI

0

+	PH	BR
PH	.122	
BR	.057	.069

0 PSI

0

+	PI	BI	BCOM	BND SUP
	.070	.046	.070	.025

0 THETA EPS

0

+	PINV	BINV	BCOM1	BCOM2	BSUP
	.000	.000	.073	.083	.000

0 THETA DELTA

0

+	PH1	PH2	PS1	BR1	BR2	BR3
	.061	.074	.067	.088	.085	.080

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML

0 CORRELATIONS OF ESTIMATES

0

+	LY 4,3	LX 2,1	LX 3,1	LX 5,2	LX 6,2	BE 2,1
LY 4,3	1.000					
LX 2,1	.000	1.000				
LX 3,1	.000	.250	1.000			
LX 5,2	.000	-.002	-.002	1.000		
LX 6,2	.000	.000	.000	.686	1.000	
BE 2,1	.000	-.011	-.015	.109	-.002	1.000
BE 3,2	-.378	.000	.000	.000	.000	-.086
BE 4,3	-.318	.000	.000	.000	.000	.000
GA 1,1	.000	.242	.323	.001	.000	-.035
GA 2,2	.000	.001	.001	.643	.612	-.268
PH 1,1	.000	-.267	-.356	.002	.000	.015
PH 2,1	.000	-.039	-.051	-.699	-.521	-.103
PH 2,2	.000	.001	.001	-.898	-.737	-.041
PS 1,1	.000	-.110	-.147	-.003	.000	-.034
PS 2,2	.000	-.002	-.002	.121	-.002	.093
PS 3,3	-.482	.000	.000	.000	.000	.010
PS 4,4	-.028	.000	.000	.000	.000	.000
TE 3,3	.472	.000	.000	.000	.000	.000
TE 4,4	-.336	.000	.000	.000	.000	.000
TD 1,1	.000	.384	.516	-.005	.000	-.030
TD 2,2	.000	-.134	-.076	.001	.000	.004
TD 3,3	.000	-.119	-.260	.001	.000	.009
TD 4,4	.000	-.001	-.001	.160	.087	.032
TD 5,5	.000	.004	.006	-.437	.010	-.250
TD 6,6	.000	-.001	-.001	.103	-.092	.054

0 CORRELATIONS OF ESTIMATES

	BE 3,2	BE 4,3	GA 1,1	GA 2,2	PH 1,1	PH 2,1
BE 3,2	1.000					
BE 4,3	.281	1.000				
GA 1,1	.000	.000	1.000			
GA 2,2	-.050	.000	-.008	1.000		
PH 1,1	.000	.000	-.345	-.001	1.000	
PH 2,1	.000	.000	-.053	-.483	.401	1.000
PH 2,2	.000	.000	-.000	-.712	.071	.798
PS 1,1	.000	.000	-.241	.013	.143	.019
PS 2,2	-.103	.000	.003	-.108	.002	-.069
PS 3,3	.125	.369	.000	.006	.000	.000
PS 4,4	.045	.202	.000	.000	.000	.000
TE 3,3	-.214	-.347	.000	.000	.000	.000
TE 4,4	.118	.058	.000	.000	.000	.000
TD 1,1	.000	.000	.501	.002	-.480	-.041
TD 2,2	.000	.000	-.074	-.000	.074	.008
TD 3,3	.000	.000	-.154	-.000	.155	.016
TD 4,4	.000	.000	.000	.077	.001	-.109
TD 5,5	.000	.000	-.001	.082	-.005	.272
TD 6,6	.000	.000	.000	-.018	.001	-.058

0 CORRELATIONS OF ESTIMATES

	PH 2,2	PS 1,1	PS 2,2	PS 3,3	PS 4,4	TE 3,3
PH 2,2	1.000					
PS 1,1	.001	1.000				
PS 2,2	-.045	-.004	1.000			
PS 3,3	.000	.000	-.014	1.000		
PS 4,4	.000	.000	.000	.028	1.000	
TE 3,3	.000	.000	.000	-.591	-.067	1.000
TE 4,4	.000	.000	.000	.073	-.004	-.177
TD 1,1	.002	-.286	-.004	.000	.000	.000
TD 2,2	-.000	.040	.001	.000	.000	.000
TD 3,3	-.001	.082	.001	.000	.000	.000
TD 4,4	-.128	-.001	.035	.000	.000	.000
TD 5,5	.179	.007	-.277	.000	.000	.000
TD 6,6	-.038	-.001	.059	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TE 4,4	TD 1,1	TD 2,2	TD 3,3	TD 4,4	TD 5,5
TE 4,4	1.000					
TD 1,1	.000	1.000				
TD 2,2	.000	-.149	1.000			
TD 3,3	.000	-.310	.043	1.000		
TD 4,4	.000	-.001	.000	.000	1.000	
TD 5,5	.000	.011	-.002	-.003	-.140	1.000
TD 6,6	.000	-.002	.000	.001	.030	-.237

0 CORRELATIONS OF ESTIMATES

	TD 6,6
TD 6,6	1.000

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML

-T-VALUES

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	5.822	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X

	PH	BR
PH1	.000	.000
PH2	6.430	.000
PS1	8.327	.000
BR1	.000	.000
BR2	.000	4.939
BR3	.000	4.450

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        BETA
0                PI          BI          BCOM       BND SUP
+             --------    --------    --------    --------
       PI       .000        .000        .000        .000
       BI      7.455        .000        .000        .000
     BCOM       .000       7.568        .000        .000
  BND SUP       .000        .000      -4.576        .000
0        GAMMA
0                PH          BR
+             --------    --------
       PI      8.101        .000
       BI       .000       4.372
     BCOM       .000        .000
  BND SUP       .000        .000
0        PHI
0                PH          BR
+             --------    --------
       PH      6.701
       BR      3.744       2.642
0        PSI
0                PI          BI          BCOM       BND SUP
+             --------    --------    --------    --------
               7.022       4.684       3.125       7.848
0        THETA EPS
0              PINV        BINV        BCOM1       BCOM2       BSUP
+             --------    --------    --------    --------    --------
                .000        .000       4.246       6.942        .000
0        THETA DELTA
0               PH1         PH2         PS1         BR1         BR2         BR3
+             --------    --------    --------    --------    --------    --------
               1.743       8.209       7.560       8.187       1.941       7.801
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-TOTAL AND INDIRECT EFFECTS
0        TOTAL EFFECTS OF KSI ON  ETA
0                PH          BR
+             --------    --------
       PI       .688        .000
       BI       .319        .953
     BCOM       .191        .570
  BND SUP      -.062       -.186
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                PH          BR
+             --------    --------
       PI       .085        .000
       BI       .057        .218
     BCOM       .041        .147
  BND SUP       .017        .058
0        INDIRECT EFFECTS OF KSI ON  ETA
0                PH          BR
+             --------    --------
       PI       .000        .000
       BI       .319        .000
     BCOM       .191        .570
  BND SUP      -.062       -.186
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                PH          BR
+             --------    --------
       PI       .000        .000
       BI       .057        .000
     BCOM       .041        .147
  BND SUP       .017        .058
0        TOTAL EFFECTS OF ETA ON  ETA
0                PI          BI          BCOM       BND SUP
+             --------    --------    --------    --------
       PI       .000        .000        .000        .000
       BI       .464        .000        .000        .000
     BCOM       .278        .598        .000        .000
  BND SUP      -.091       -.195       -.326        .000
0   LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .358
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  ETA
0                  PI          BI          BCOM     BND SUP
+
      PI         .000        .000        .000        .000
      BI         .062        .000        .000        .000
    BCOM         .050        .079        .000        .000
 BND SUP         .023        .043        .071        .000
0        INDIRECT EFFECTS OF ETA ON  ETA
0                  PI          BI          BCOM     BND SUP
+
      PI         .000        .000        .000        .000
      BI         .000        .000        .000        .000
    BCOM         .278        .000        .000        .000
 BND SUP        -.091       -.195        .000        .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  ETA
0                  PI          BI          BCOM     BND SUP
+
      PI         .000        .000        .000        .000
      BI         .000        .000        .000        .000
    BCOM         .050        .000        .000        .000
 BND SUP         .023        .043        .000        .000
0        TOTAL EFFECTS OF ETA ON  Y
0                  PI          BI          BCOM     BND SUP
+
    PINV        1.000        .000        .000        .000
    BINV         .464       1.000        .000        .000
   BCOM1         .278        .598       1.000        .000
   BCOM2         .235        .506        .845        .000
    BSUP        -.091       -.195       -.326       1.000
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  Y
0                  PI          BI          BCOM     BND SUP
+
    PINV         .000        .000        .000        .000
    BINV         .062        .000        .000        .000
   BCOM1         .050        .079        .000        .000
   BCOM2         .050        .087        .145        .000
    BSUP         .023        .043        .071        .000
0        INDIRECT EFFECTS OF ETA ON  Y
0                  PI          BI          BCOM     BND SUP
+
    PINV         .000        .000        .000        .000
    BINV         .464        .000        .000        .000
   BCOM1         .278        .598        .000        .000
   BCOM2         .235        .506        .000        .000
    BSUP        -.091       -.195       -.326        .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  Y
0                  PI          BI          BCOM     BND SUP
+
    PINV         .000        .000        .000        .000
    BINV         .062        .000        .000        .000
   BCOM1         .050        .079        .000        .000
   BCOM2         .050        .087        .000        .000
    BSUP         .023        .043        .071        .000
0        TOTAL EFFECTS OF KSI ON  Y
0                  PH          BR
+
    PINV         .688        .000
    BINV         .319        .953
   BCOM1         .191        .570
   BCOM2         .161        .482
    BSUP        -.062       -.186
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  Y
0                  PH          BR
+
    PINV         .085        .000
    BINV         .057        .218
   BCOM1         .041        .147
   BCOM2         .039        .136
    BSUP         .017        .058
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-COVARIANCES
0 Y - ETA
0
+

	PINV	BINV	BCOM1	BCOM2	BSUP
PI	.882	.548	.328	.277	-.107
BI	.548	.698	.418	.353	-.136
BCOM	.328	.418	.468	.395	-.152
BND SUP	-.107	-.136	-.152	-.129	.244

0 Y - KSI
0
+

	PINV	BINV	BCOM1	BCOM2	BSUP
PH	.563	.463	.277	.234	-.090
BR	.146	.241	.144	.122	-.047

0 X - ETA
0
+

	PH1	PH2	PS1	BR1	BR2	BR3
PI	.563	.298	.392	.146	.294	.175
BI	.463	.245	.323	.241	.486	.290
BCOM	.277	.147	.193	.144	.291	.174
BND SUP	-.090	-.048	-.063	-.047	-.095	-.057

0 X - KSI
0
+

	PH1	PH2	PS1	BR1	BR2	BR3
PH	.818	.433	.570	.212	.427	.255
BR	.212	.112	.148	.182	.367	.219

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-FIRST ORDER DERIVATIVES
0 LAMBDA Y
0
+

	PI	BI	BCOM	BND SUP
PINV	.000	-.094	-.133	.003
BINV	.058	.000	.105	.008
BCOM1	-.154	.036	.000	.088
BCOM2	.020	-.064	.000	-.069
BSUP	-.121	-.056	.000	.000

0 LAMBDA X
0
+

	PH	BR
PH1	.000	.067
PH2	.000	.040
PS1	.000	-.053
BR1	-.112	.000
BR2	.063	.000
BR3	-.072	.000

0 BETA
0
+

	PI	BI	BCOM	BND SUP
PI	.000	-.094	-.084	.015
BI	.000	.000	.105	.026
BCOM	-.098	.000	.000	.030
BND SUP	-.121	-.056	.000	.000

0 GAMMA
0
+

	PH	BR
PI	.000	-.075
BI	.075	.000
BCOM	-.050	-.061
BND SUP	-.130	-.070

0 PHI
0
+

	PH	BR
PH	.000	
BR	.000	.000

0 PSI
0
+

PI	BI	BCOM	BND SUP
.000	.000	.000	.000

0 THETA EPS
0
+

PINV	BINV	BCOM1	BCOM2	BSUP
.049	-.290	.000	.000	.000

0 THETA DELTA

PH1	PH2	PS1	BR1	BR2	BR3
.000	.000	.000	.000	.000	.000

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-FACTOR SCORES REGRESSIONS

0 ETA

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PI	.897	.048	.006	.003	-.003	.038
BI	.143	.599	.076	.034	-.039	.019
BCOM	.041	.171	.358	.163	-.184	.005
BND SUP	-.000	-.001	-.001	-.001	.990	.000

0 ETA

	PH2	PS1	BR1	BR2	BR3
PI	.004	.006	-.002	-.014	-.002
BI	.002	.003	.012	.108	.017
BCOM	.001	.001	.003	.031	.005
BND SUP	.000	.000	.000	-.000	.000

0 KSI

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PH	.089	.015	.002	.001	-.001	.704
BR	-.026	.064	.008	.004	-.004	.036

0 KSI

	PH2	PS1	BR1	BR2	BR3
PH	.065	.103	.005	.046	.007
BR	.003	.005	.036	.317	.050

1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-STANDARDIZED SOLUTION

0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.939	.000	.000	.000
BINV	.000	.836	.000	.000
BCOM1	.000	.000	.684	.000
BCOM2	.000	.000	.578	.000
BSUP	.000	.000	.000	.494

0 LAMBDA X

	PH	BR
PH1	.904	.000
PH2	.479	.000
PS1	.630	.000
BR1	.000	.427
BR2	.000	.859
BR3	.000	.513

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.521	.000	.000	.000
BCOM	.000	.731	.000	.000
BND SUP	.000	.000	-.452	.000

0 GAMMA

	PH	BR
PI	.663	.000
BI	.000	.487
BCOM	.000	.000
BND SUP	.000	.000

0 CORRELATION MATRIX OF ETA AND KSI

	PI	BI	BCOM	BND SUP	PH	BR
PI	1.000					
BI	.699	1.000				
BCOM	.511	.731	1.000			
BND SUP	-.231	-.330	-.452	1.000		
PH	.663	.613	.448	-.202	1.000	
BR	.364	.677	.495	-.224	.549	1.000

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        PSI
0                 PI          BI         BCOM     BND SUP
+            --------    --------    --------    --------
                 .561        .306        .465        .796
0        REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0                 PH          BR
+            --------    --------
       PI        .663        .000
       BI        .346        .487
     BCOM        .253        .356
  BND SUP       -.114       -.161
1SIMPLIFIED INV. / BS MODEL FOR NEWSPAPERS USING ML
-MODIFICATION INDICES AND ESTIMATED CHANGE
0        MODIFICATION INDICES FOR LAMBDA Y
0                 PI          BI         BCOM     BND SUP
+            --------    --------    --------    --------
     PINV        .000       6.253       8.502        .002
     BINV       1.861        .000       8.737        .018
    BCOM1       4.484       3.140        .000       5.602
    BCOM2        .094       5.602        .000       3.140
     BSUP        .916        .709        .000        .000
0        ESTIMATED CHANGE FOR LAMBDA Y
0                 PI          BI         BCOM     BND SUP
+            --------    --------    --------    --------
     PINV        .000        .447        .429       -.006
     BINV       -.214        .000       -.557       -.015
    BCOM1        .195       -.593        .000       -.426
    BCOM2       -.031        .589        .000        .306
     BSUP        .051        .084        .000        .000
0        MODIFICATION INDICES FOR LAMBDA X
0                 PH          BR
+            --------    --------
      PH1        .000       5.454
      PH2        .000       1.659
      PS1        .000       2.727
      BR1       3.374        .000
      BR2       1.999        .000
      BR3       1.355        .000
0        ESTIMATED CHANGE FOR LAMBDA X
0                 PH          BR
+            --------    --------
      PH1        .000       -.543
      PH2        .000       -.275
      PS1        .000        .343
      BR1        .201        .000
      BR2       -.212        .000
      BR3        .126        .000
0        MODIFICATION INDICES FOR BETA
0                 PI          BI         BCOM     BND SUP
+            --------    --------    --------    --------
       PI        .000       6.253       4.529        .103
       BI        .000        .000       8.737        .248
     BCOM       1.861        .000        .000        .709
  BND SUP        .916        .709        .000        .000
0        ESTIMATED CHANGE FOR BETA
0                 PI          BI         BCOM     BND SUP
+            --------    --------    --------    --------
       PI        .000        .447        .361       -.046
       BI        .000        .000       -.557       -.064
     BCOM        .128        .000        .000       -.158
  BND SUP        .051        .084        .000        .000
0        MODIFICATION INDICES FOR GAMMA
0                 PH          BR
+            --------    --------
       PI        .000       5.655
       BI       1.281        .000
     BCOM        .430       3.823
  BND SUP       1.058       1.649
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Newspapers Estimated Using Maximum Likelihood (cont.)

```
0        ESTIMATED CHANGE FOR GAMMA
0                PH          BR
+           ________    ________
       PI       .000        .505
       BI      -.114        .000
     BCOM       .058        .421
  BND SUP       .055        .158
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0        MODIFICATION INDICES FOR THETA EPS
0              PINV        BINV       BCOM1       BCOM2        BSUP
+          ________    ________    ________    ________    ________
              1.281       8.737        .000        .000        .000
0        ESTIMATED CHANGE FOR THETA EPS
0              PINV        BINV       BCOM1       BCOM2        BSUP
+          ________    ________    ________    ________    ________
              -.177        .203        .000        .000        .000
0NO NON-ZERO MODIFICATION INDICES FOR THETA DELTA
0       MAXIMUM MODIFICATION INDEX IS    8.74 FOR ELEMENT ( 2, 2) OF THETA EPS
-         THE PROBLEM USED     14360 BYTES (=  5.5% OF AVAILABLE WORKSPACE)
-                          TIME USED :     56.6 SECONDS
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood

```
1                                DOS - L I S R E L  7.16
0                                          BY
0                            KARL G JORESKOG AND DAG SORBOM

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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
 DA NI=17 NO=185   MA=CM
 CM FI=C:\MAINANAL\WAVE2\BC8.CMT
 SE
 3 4 1 2 17 8 9 5 14 15 16/
 MO NY=5 NX=6 NK=2 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PH' 'BR' /
 PA LX
 1(0 0) 2(1 0) 1(0 0) 2(0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(4,2)
 VA .046 TE 1
 VA .137 TE 2
 VA .002 TE 5
 OU ALL AD=30 ME=ML
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0                         NUMBER OF INPUT VARIABLES 17
0                         NUMBER OF Y - VARIABLES    5
0                         NUMBER OF X - VARIABLES    6
0                         NUMBER OF ETA - VARIABLES  4
0                         NUMBER OF KSI - VARIABLES  2
0                         NUMBER OF OBSERVATIONS   185
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0        COVARIANCE MATRIX TO BE ANALYZED
0               PINV       BINV       BCOM1      BCOM2      BSUP       PH1
+            --------   --------   --------   --------   --------   --------
     PINV       .937
     BINV       .539       .910
    BCOM1       .289       .347       .862
    BCOM2       .149       .289       .368       .894
     BSUP       .003      -.016       .001      -.032       .037
      PH1       .434       .217       .205       .198       .003       .875
      PH2       .199       .097       .115       .148       .004       .506
      PS1       .277       .109       .086       .118       .003       .408
      BR1       .208       .357       .335       .384       .017       .186
      BR2       .332       .500       .389       .354       .000       .258
      BR3       .335       .410       .254       .379       .004       .258
0        COVARIANCE MATRIX TO BE ANALYZED
0               PH2        PS1        BR1        BR2        BR3
+            --------   --------   --------   --------   --------
      PH2       .750
      PS1       .326       .814
      BR1       .091       .088       .922
      BR2       .123       .122       .422       .910
      BR3       .178       .200       .325       .490       .886
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0PARAMETER SPECIFICATIONS
0         LAMBDA Y
0                   PI           BI          BCOM      BND SUP
+             --------     --------     --------     --------
     PINV            0            0            0            0
     BINV            0            0            0            0
    BCOM1            0            0            0            0
    BCOM2            0            0            1            0
     BSUP            0            0            0            0
0         LAMBDA X
0                   PH           BR
+             --------     --------
      PH1            0            0
      PH2            2            0
      PS1            3            0
      BR1            0            0
      BR2            0            4
      BR3            0            5
0         BETA
0                   PI           BI          BCOM      BND SUP
+             --------     --------     --------     --------
       PI            0            0            0            0
       BI            6            0            0            0
     BCOM            0            7            0            0
  BND SUP            0            0            8            0
0         GAMMA
0                   PH           BR
+             --------     --------
       PI            9            0
       BI            0           10
     BCOM            0            0
  BND SUP            0            0
0         PHI
0                   PH           BR
+             --------     --------
       PH           11
       BR           12           13
0         PSI
0                   PI           BI          BCOM      BND SUP
+             --------     --------     --------     --------
                    14           15           16           17
0         THETA EPS
0                 PINV         BINV        BCOM1        BCOM2         BSUP
+             --------     --------     --------     --------     --------
                     0            0           18           19            0
0         THETA DELTA
0                  PH1          PH2          PS1          BR1          BR2          BR3
+             --------     --------     --------     --------     --------     --------
                    20           21           22           23           24           25
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                   PI           BI          BCOM      BND SUP
+             --------     --------     --------     --------
     PINV        1.000         .000         .000         .000
     BINV         .000        1.000         .000         .000
    BCOM1         .000         .000        1.000         .000
    BCOM2         .000         .000         .977         .000
     BSUP         .000         .000         .000        1.000
0         LAMBDA X
0                   PH           BR
+             --------     --------
      PH1        1.000         .000
      PH2         .736         .000
      PS1         .632         .000
      BR1         .000        1.000
      BR2         .000        1.134
      BR3         .000        1.092
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0        BETA
0                 PI          BI          BCOM        BND SUP
+             ________    ________    ________    ________
      PI        .000        .000        .000        .000
      BI       -.153        .000        .000        .000
    BCOM        .000        .824        .000        .000
 BND SUP        .000        .000        .019        .000
0        GAMMA
0                 PH          BR
+             ________    ________
      PI        .577        .000
      BI        .000       1.215
    BCOM        .000        .000
 BND SUP        .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI          BI        BCOM     BND SUP          PH          BR
+             ________    ________    ________    ________    ________    ________
      PI        .891
      BI        .004        .937
    BCOM        .004        .772       1.008
 BND SUP        .000        .014        .019        .036
      PH        .389        .184        .152        .003        .675
      BR        .116        .418        .345        .006        .201        .359
0        PSI
0                 PI          BI        BCOM     BND SUP
+             ________    ________    ________    ________
                .667        .429        .371        .036
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             ________    ________    ________    ________    ________
                .046        .137        .485        .534        .002
0        THETA DELTA
0                PH1         PH2         PS1         BR1         BR2         BR3
+             ________    ________    ________    ________    ________    ________
                .200        .384        .544        .563        .448        .458
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV       BCOM1       BCOM2        BSUP
+             ________    ________    ________    ________    ________
                .951        .872        .675        .643        .948
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS   1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PH1         PH2         PS1         BR1         BR2         BR3
+             ________    ________    ________    ________    ________    ________
                .771        .488        .331        .389        .507        .483
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS    .947
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI          BI        BCOM     BND SUP
+             ________    ________    ________    ________
                .252        .542        .632        .010
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .657
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY    ABSCISSA            SLOPE               FUNCTION
0            1    0     .00000000D+00      -.39052074D+00       .59969522D+00
                  1     .10000000D+01      -.96664572D-01       .34953857D+00
                  2     .13289520D+01       .18731475D-01       .33643344D+00
0            2    0     .00000000D+00      -.65347241D-01       .33643344D+00
                  1     .13289520D+01       .17223406D-01       .29258188D+00
                  2     .10517460D+01      -.10304457D-01       .29182077D+00
                  3     .11555120D+01      -.98630095D-03       .29122580D+00
0            3    0     .00000000D+00      -.11636238D-01       .29122580D+00
                  1     .11555120D+01       .67216475D-02       .28844770D+00
                  2     .73242712D+00       .70221133D-04       .28700890D+00
0            4    0     .00000000D+00      -.82136199D-03       .28700890D+00
                  1     .73242712D+00      -.10303879D-03       .28666971D+00
                  2     .83748903D+00       .89993036D-06       .28666434D+00
0            5    0     .00000000D+00      -.18211775D-03       .28666434D+00
                  1     .83748903D+00      -.64835862D-04       .28656155D+00
                  2     .13004704D+01      -.35549401D-05       .28654580D+00
0            6    0     .00000000D+00      -.64873275D-04       .28654580D+00
                  1     .13004704D+01      -.50350931D-05       .28650036D+00
0            7    0     .00000000D+00      -.17764227D-04       .28650036D+00
                  1     .13004704D+01       .10532096D-04       .28649569D+00
                  2     .81642589D+00       .37746745D-07       .28649313D+00
```

```
0          8   0    .00000000D+00    -.52033518D-05      .28649313D+00
               1    .81642589D+00    -.27853698D-05      .28648987D+00
               2    .17568994D+01    -.13055664D-08      .28648856D+00
0          9   0    .00000000D+00    -.19299535D-05      .28648856D+00
               1    .17568994D+01    -.70750923D-06      .28648625D+00
               2    .27737331D+01    -.15896204D-08      .28648589D+00
0         10   0    .00000000D+00    -.67157722D-06      .28648589D+00
               1    .27737331D+01     .47158899D-06      .28648561D+00
               2    .16294883D+01    -.53945360D-09      .28648534D+00
0         11   0    .00000000D+00    -.13694416D-06      .28648534D+00
               1    .16294883D+01     .40411371D-07      .28648526D+00
               2    .12582010D+01     .41690253D-11      .28648525D+00
0         12   0    .00000000D+00    -.19495992D-07      .28648525D+00
               1    .12582010D+01    -.12633199D-08      .28648524D+00
0         13   0    .00000000D+00    -.24714830D-08      .28648524D+00
               1    .12582010D+01    -.54068010D-10      .28648524D+00
0         14   0    .00000000D+00    -.15405199D-09      .28648524D+00
               1    .12582010D+01     .40551505D-10      .28648524D+00
               2    .99601689D+00     .36383302D-16      .28648524D+00
0         15   0    .00000000D+00    -.48462469D-11      .28648524D+00
               1    .99601689D+00     .71972827D-14      .28648524D+00
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0        LAMBDA Y
0                   PI          BI         BCOM      BND SUP
+              --------    --------    --------    --------
     PINV         1.000        .000        .000        .000
     BINV          .000       1.000        .000        .000
    BCOM1          .000        .000       1.000        .000
    BCOM2          .000        .000        .887        .000
     BSUP          .000        .000        .000       1.000
0        LAMBDA X
0                   PH          BR
+              --------    --------
      PH1         1.000        .000
      PH2          .679        .000
      PS1          .573        .000
      BR1          .000       1.000
      BR2          .000       1.440
      BR3          .000       1.143
0        BETA
0                   PI          BI         BCOM      BND SUP
+              --------    --------    --------    --------
       PI          .000        .000        .000        .000
       BI          .390        .000        .000        .000
     BCOM          .000        .486        .000        .000
  BND SUP          .000        .000       -.031        .000
0        GAMMA
0                   PH          BR
+              --------    --------
       PI          .582        .000
       BI          .000        .895
     BCOM          .000        .000
  BND SUP          .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                   PI          BI         BCOM      BND SUP          PH          BR
+              --------    --------    --------    --------    --------    --------
       PI          .892
       BI          .441        .698
     BCOM          .214        .339        .399
  BND SUP         -.007       -.011       -.013        .035
       PH          .426        .327        .159       -.005        .732
       BR          .104        .309        .150       -.005        .179        .299
0        PSI
0                   PI          BI         BCOM      BND SUP
+              --------    --------    --------    --------
                   .644        .250        .235        .035
0        THETA EPS
0                 PINV        BINV        BCOM1       BCOM2        BSUP
+              --------    --------    --------    --------    --------
                   .046        .137        .446        .568        .002
0        THETA DELTA
0                  PH1         PH2         PS1         BR1         BR2         BR3
+              --------    --------    --------    --------    --------    --------
                   .143        .413        .573        .623        .289        .495
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV        BCOM1       BCOM2       BSUP
+          --------    --------    --------    --------    --------
               .951        .836        .472        .356        .946
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0               PH1         PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------    --------
               .836        .450        .296        .325        .683        .441
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .966
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0               PI          BI          BCOM     BND SUP
+          --------    --------    --------    --------
               .278        .643        .412        .011
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .624

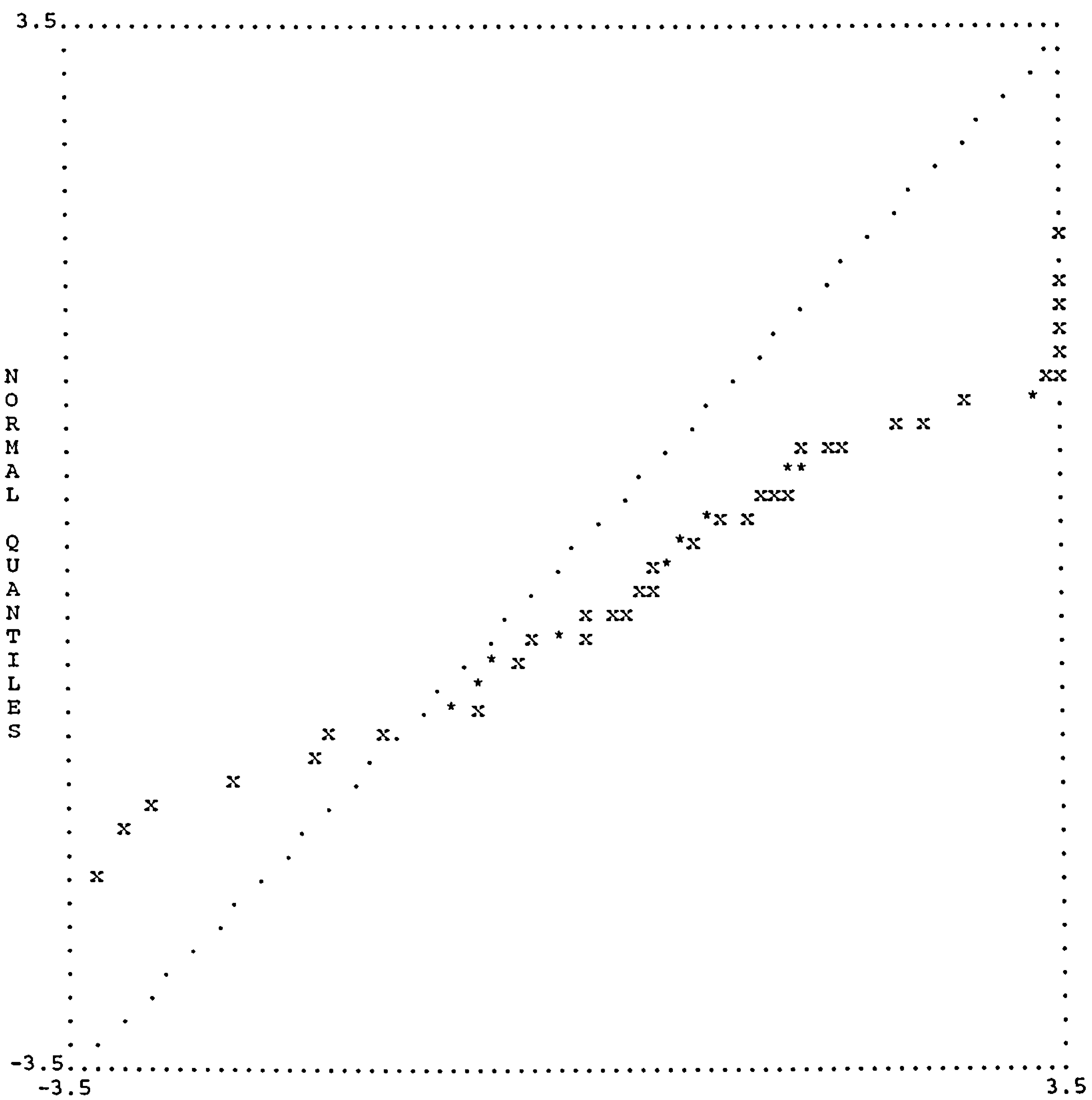

0         CHI-SQUARE WITH  41 DEGREES OF FREEDOM =    105.43 (P = .000)
0                      GOODNESS OF FIT INDEX = .915
             ADJUSTED GOODNESS OF FIT INDEX = .863
                  ROOT MEAN SQUARE RESIDUAL =       .078
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
0        FITTED COVARIANCE MATRIX
0               PINV        BINV        BCOM1       BCOM2       BSUP        PH1
+          --------    --------    --------    --------    --------    --------
    PINV       .938
    BINV       .441        .835
   BCOM1       .214        .339        .846
   BCOM2       .190        .301        .354        .882
    BSUP      -.007       -.011       -.013       -.011        .037
     PH1       .426        .327        .159        .141       -.005        .875
     PH2       .289        .222        .108        .095       -.003        .497
     PS1       .244        .187        .091        .081       -.003        .420
     BR1       .104        .309        .150        .133       -.005        .179
     BR2       .150        .445        .216        .192       -.007        .258
     BR3       .119        .353        .171        .152       -.005        .205
0        FITTED COVARIANCE MATRIX
0               PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------
     PH2       .750
     PS1       .285        .814
     BR1       .122        .103        .922
     BR2       .175        .148        .431        .910
     BR3       .139        .117        .342        .493        .886
0        FITTED RESIDUALS
0               PINV        BINV        BCOM1       BCOM2       BSUP        PH1
+          --------    --------    --------    --------    --------    --------
    PINV      -.000
    BINV       .098        .075
   BCOM1       .075        .008        .016
   BCOM2      -.042       -.011        .014        .012
    BSUP       .009       -.005        .014       -.021        .000
     PH1       .008       -.109        .047        .058        .008        .000
     PH2      -.090       -.125        .008        .053        .007        .009
     PS1       .033       -.078       -.005        .037        .006       -.012
     BR1       .104        .048        .185        .251        .021        .007
     BR2       .182        .056        .173        .162        .007        .000
     BR3       .215        .057        .083        .227        .009        .054
0        FITTED RESIDUALS
0               PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------
     PH2       .000
     PS1       .041        .000
     BR1      -.031       -.015        .000
     BR2      -.053       -.026       -.009        .000
     BR3       .039        .082       -.017       -.003        .000
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =    -.125
   MEDIAN FITTED RESIDUAL =     .008
  LARGEST FITTED RESIDUAL =     .251
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
-STEMLEAF PLOT
 - 1|21
 - 0|985
 - 0|4332221111000000000000
   0|1111111111111223444
   0|55556667888
   1|00
   1|6788
   2|23
   2|5
0        STANDARDIZED RESIDUALS
0              PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+          --------    --------    --------    --------    --------    --------
     PINV      .000
     BINV     4.160       4.491
    BCOM1     1.559        .607       1.698
    BCOM2     -.824       -.836       2.855        .305
     BSUP      .765       -.586       1.955      -2.327        .000
      PH1      .996      -3.329        .897       1.058        .612        .000
      PH2    -2.909      -3.131        .144        .969        .583       2.357
      PS1      .792      -1.680       -.081        .640        .443      -1.782
      BR1     1.700       1.341       3.374       4.389       1.645        .147
      BR2     3.351       2.498       3.720       3.313        .568       -.002
      BR3     3.722       1.907       1.618       4.252        .750       1.348
0        STANDARDIZED RESIDUALS
0               PH2         PS1         BR1         BR2         BR3
+          --------    --------    --------    --------    --------
      PH2      .000
      PS1     1.502        .000
      BR1     -.608       -.270        .000
      BR2    -1.286       -.530       -.587        .000
      BR3      .829       1.548       -.569       -.306        .000
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =   -3.329
   MEDIAN STANDARDIZED RESIDUAL =     .609
  LARGEST STANDARDIZED RESIDUAL =    4.491
-STEMLEAF PLOT
 - 3|31
 - 2|93
 - 1|873
 - 0|8866665331000000000
   0|11346666688889
   1|0013355666779
   2|0459
   3|34477
   4|2345
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR       PH1 AND      BINV =  -3.329
0RESIDUAL FOR       PH2 AND      PINV =  -2.909
0RESIDUAL FOR       PH2 AND      BINV =  -3.131
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR      BINV AND      PINV =   4.160
0RESIDUAL FOR      BINV AND      BINV =   4.491
0RESIDUAL FOR     BCOM2 AND     BCOM1 =   2.855
0RESIDUAL FOR       BR1 AND     BCOM1 =   3.374
0RESIDUAL FOR       BR1 AND     BCOM2 =   4.389
0RESIDUAL FOR       BR2 AND      PINV =   3.351
0RESIDUAL FOR       BR2 AND     BCOM1 =   3.720
0RESIDUAL FOR       BR2 AND     BCOM2 =   3.313
0RESIDUAL FOR       BR3 AND      PINV =   3.722
0RESIDUAL FOR       BR3 AND     BCOM2 =   4.252
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
- QPLOT OF STANDARDIZED RESIDUALS



1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-STANDARD ERRORS
0 LAMBDA Y
0
+

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.186	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X
0
+

	PH	BR
PH1	.000	.000
PH2	.083	.000
PS1	.084	.000
BR1	.000	.000
BR2	.000	.210
BR3	.000	.178

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.055	.000	.000	.000
BCOM	.000	.080	.000	.000
BND SUP	.000	.000	.028	.000

0 GAMMA

	PH	BR
PI	.090	.000
BI	.000	.148
BCOM	.000	.000
BND SUP	.000	.000

0 PHI

	PH	BR
PH	.111	
BR	.049	.079

0 PSI

PI	BI	BCOM	BND SUP
.077	.048	.081	.004

0 THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.000	.000	.092	.086	.000

0 THETA DELTA

PH1	PH2	PS1	BR1	BR2	BR3
.067	.054	.065	.074	.066	.066

1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML

0 CORRELATIONS OF ESTIMATES

	LY 4,3	LX 2,1	LX 3,1	LX 5,2	LX 6,2	BE 2,1
LY 4,3	1.000					
LX 2,1	.000	1.000				
LX 3,1	.000	.373	1.000			
LX 5,2	.000	-.001	-.000	1.000		
LX 6,2	.000	.000	.000	.642	1.000	
BE 2,1	.000	-.016	-.013	.028	-.000	1.000
BE 3,2	-.486	.000	.000	.000	.000	-.053
BE 4,3	-.116	.000	.000	.000	.000	.000
GA 1,1	.000	.352	.280	.000	.000	-.031
GA 2,2	.000	.001	.001	.605	.574	-.169
PH 1,1	.000	-.490	-.391	.001	.000	.016
PH 2,1	.000	-.077	-.062	-.417	-.350	-.084
PH 2,2	.000	.000	.000	-.812	-.716	-.001
PS 1,1	.000	-.111	-.088	-.001	.000	-.025
PS 2,2	.000	-.001	-.001	.068	-.000	.040
PS 3,3	-.616	.000	.000	.000	.000	.005
PS 4,4	-.001	.000	.000	.000	.000	.000
TE 3,3	.584	.000	.000	.000	.000	.000
TE 4,4	-.492	.000	.000	.000	.000	.000
TD 1,1	.000	.623	.490	-.001	.000	-.027
TD 2,2	.000	-.385	-.201	.000	.000	.010
TD 3,3	.000	-.129	-.211	.000	.000	.005
TD 4,4	.000	.000	.000	.243	.181	.001
TD 5,5	.000	.001	.001	-.397	.025	-.076
TD 6,6	.000	.000	.000	.089	-.202	.002

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0         CORRELATIONS OF ESTIMATES
0              BE 3,2    BE 4,3    GA 1,1    GA 2,2    PH 1,1    PH 2,1
+           --------  --------  --------  --------  --------  --------
   BE 3,2      1.000
   BE 4,3       .095     1.000
   GA 1,1       .000      .000     1.000
   GA 2,2      -.045      .000     -.005     1.000
   PH 1,1       .000      .000     -.369     -.001     1.000
   PH 2,1       .000      .000     -.060     -.316      .353     1.000
   PH 2,2       .000      .000      .000     -.675      .040      .565
   PS 1,1       .000      .000     -.185      .006      .108      .017
   PS 2,2      -.076      .000      .002     -.180      .001     -.005
   PS 3,3       .234      .133      .000      .004      .000      .000
   PS 4,4       .003      .059      .000      .000      .000      .000
   TE 3,3      -.286     -.115      .000      .000      .000      .000
   TE 4,4       .238      .032      .000      .000      .000      .000
   TD 1,1       .000      .000      .462      .001     -.573     -.062
   TD 2,2       .000      .000     -.189     -.001      .248      .033
   TD 3,3       .000      .000     -.096     -.000      .126      .017
   TD 4,4       .000      .000      .000      .171      .000     -.106
   TD 5,5       .000      .000     -.001      .023     -.001      .116
   TD 6,6       .000      .000      .000     -.001      .000     -.003
0         CORRELATIONS OF ESTIMATES
0              PH 2,2    PS 1,1    PS 2,2    PS 3,3    PS 4,4    TE 3,3
+           --------  --------  --------  --------  --------  --------
   PH 2,2      1.000
   PS 1,1       .000     1.000
   PS 2,2      -.002     -.002     1.000
   PS 3,3       .000      .000     -.005     1.000
   PS 4,4       .000      .000      .000      .002     1.000
   TE 3,3       .000      .000      .000     -.643     -.003     1.000
   TE 4,4       .000      .000      .000      .151     -.001     -.276
   TD 1,1       .000     -.179     -.001      .000      .000      .000
   TD 2,2       .000      .067      .000      .000      .000      .000
   TD 3,3       .000      .034      .000      .000      .000      .000
   TD 4,4      -.215      .000      .003      .000      .000      .000
   TD 5,5       .122      .002     -.180      .000      .000      .000
   TD 6,6      -.003      .000      .005      .000      .000      .000
0         CORRELATIONS OF ESTIMATES
0              TE 4,4    TD 1,1    TD 2,2    TD 3,3    TD 4,4    TD 5,5
+           --------  --------  --------  --------  --------  --------
   TE 4,4      1.000
   TD 1,1       .000     1.000
   TD 2,2       .000     -.411     1.000
   TD 3,3       .000     -.210      .078     1.000
   TD 4,4       .000      .000      .000      .000     1.000
   TD 5,5       .000      .002     -.001     -.000     -.131     1.000
   TD 6,6       .000      .000      .000      .000      .003     -.239
0         CORRELATIONS OF ESTIMATES
0              TD 6,6
+           --------
   TD 6,6      1.000
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-T-VALUES
0         LAMBDA Y
0                  PI        BI      BCOM   BND SUP
+           --------  --------  --------  --------
     PINV       .000      .000      .000      .000
     BINV       .000      .000      .000      .000
    BCOM1       .000      .000      .000      .000
    BCOM2       .000      .000     4.765      .000
     BSUP       .000      .000      .000      .000
0         LAMBDA X
0                  PH        BR
+           --------  --------
      PH1       .000      .000
      PH2      8.182      .000
      PS1      6.825      .000
      BR1       .000      .000
      BR2       .000     6.856
      BR3       .000     6.412
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0         BETA
0                  PI          BI          BCOM       BND SUP
+               --------    --------    --------    --------
       PI         .000        .000        .000        .000
       BI        7.076        .000        .000        .000
     BCOM         .000       6.051        .000        .000
  BND SUP         .000        .000      -1.130        .000
0         GAMMA
0                  PH          BR
+               --------    --------
       PI        6.469        .000
       BI         .000       6.044
     BCOM         .000        .000
  BND SUP         .000        .000
0         PHI
0                  PH          BR
+               --------    --------
       PH        6.582
       BR        3.686       3.774
0         PSI
0                  PI          BI          BCOM       BND SUP
+               --------    --------    --------    --------
                 8.345       5.176       2.886       9.021
0         THETA EPS
0                 PINV        BINV        BCOM1       BCOM2        BSUP
+               --------    --------    --------    --------    --------
                  .000        .000       4.877       6.612        .000
0         THETA DELTA
0                 PH1         PH2          PS1         BR1         BR2         BR3
+               --------    --------    --------    --------    --------    --------
                 2.136       7.699       8.803       8.412       4.400       7.549
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-TOTAL AND INDIRECT EFFECTS
0         TOTAL EFFECTS OF KSI ON  ETA
0                  PH          BR
+               --------    --------
       PI         .582        .000
       BI         .227        .895
     BCOM         .110        .435
  BND SUP        -.003       -.014
0         STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                  PH          BR
+               --------    --------
       PI         .090        .000
       BI         .047        .148
     BCOM         .029        .099
  BND SUP         .003        .012
0         INDIRECT EFFECTS OF KSI ON  ETA
0                  PH          BR
+               --------    --------
       PI         .000        .000
       BI         .227        .000
     BCOM         .110        .435
  BND SUP        -.003       -.014
0         STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                  PH          BR
+               --------    --------
       PI         .000        .000
       BI         .047        .000
     BCOM         .029        .099
  BND SUP         .003        .012
0         TOTAL EFFECTS OF ETA ON  ETA
0                  PI          BI          BCOM       BND SUP
+               --------    --------    --------    --------
       PI         .000        .000        .000        .000
       BI         .390        .000        .000        .000
     BCOM         .189        .486        .000        .000
  BND SUP        -.006       -.015       -.031        .000
0    LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .236
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  ETA
0                 PI         BI         BCOM     BND SUP
+
      PI        .000       .000        .000       .000
      BI        .055       .000        .000       .000
    BCOM        .040       .080        .000       .000
 BND SUP        .005       .013        .028       .000
0        INDIRECT EFFECTS OF ETA ON  ETA
0                 PI         BI         BCOM     BND SUP
+
      PI        .000       .000        .000       .000
      BI        .000       .000        .000       .000
    BCOM        .189       .000        .000       .000
 BND SUP       -.006      -.015        .000       .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  ETA
0                 PI         BI         BCOM     BND SUP
+
      PI        .000       .000        .000       .000
      BI        .000       .000        .000       .000
    BCOM        .040       .000        .000       .000
 BND SUP        .005       .013        .000       .000
0        TOTAL EFFECTS OF ETA ON  Y
0                 PI         BI         BCOM     BND SUP
+
    PINV       1.000       .000        .000       .000
    BINV        .390      1.000        .000       .000
   BCOM1        .189       .486       1.000       .000
   BCOM2        .168       .431        .887       .000
    BSUP       -.006      -.015       -.031      1.000
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  Y
0                 PI         BI         BCOM     BND SUP
+
    PINV        .000       .000        .000       .000
    BINV        .055       .000        .000       .000
   BCOM1        .040       .080        .000       .000
   BCOM2        .039       .084        .186       .000
    BSUP        .005       .013        .028       .000
0        INDIRECT EFFECTS OF ETA ON  Y
0                 PI         BI         BCOM     BND SUP
+
    PINV        .000       .000        .000       .000
    BINV        .390       .000        .000       .000
   BCOM1        .189       .486        .000       .000
   BCOM2        .168       .431        .000       .000
    BSUP       -.006      -.015       -.031       .000
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON  Y
0                 PI         BI         BCOM     BND SUP
+
    PINV        .000       .000        .000       .000
    BINV        .055       .000        .000       .000
   BCOM1        .040       .080        .000       .000
   BCOM2        .039       .084        .000       .000
    BSUP        .005       .013        .028       .000
0        TOTAL EFFECTS OF KSI ON  Y
0                 PH         BR
+
    PINV        .582       .000
    BINV        .227       .895
   BCOM1        .110       .435
   BCOM2        .098       .386
    BSUP       -.003      -.014
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  Y
0                 PH         BR
+
    PINV        .090       .000
    BINV        .047       .148
   BCOM1        .029       .099
   BCOM2        .027       .096
    BSUP        .003       .012
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-COVARIANCES
0 Y - ETA

	PINV	BINV	BCOM1	BCOM2	BSUP
PI	.892	.441	.214	.190	-.007
BI	.441	.698	.339	.301	-.011
BCOM	.214	.339	.399	.354	-.013
BND SUP	-.007	-.011	-.013	-.011	.035

0 Y - KSI

	PINV	BINV	BCOM1	BCOM2	BSUP
PH	.426	.327	.159	.141	-.005
BR	.104	.309	.150	.133	-.005

0 X - ETA

	PH1	PH2	PS1	BR1	BR2	BR3
PI	.426	.289	.244	.104	.150	.119
BI	.327	.222	.187	.309	.445	.353
BCOM	.159	.108	.091	.150	.216	.171
BND SUP	-.005	-.003	-.003	-.005	-.007	-.005

0 X - KSI

	PH1	PH2	PS1	BR1	BR2	BR3
PH	.732	.497	.420	.179	.258	.205
BR	.179	.122	.103	.299	.431	.342

1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-FIRST ORDER DERIVATIVES
0 LAMBDA Y

	PI	BI	BCOM	BND SUP
PINV	.000	-.179	-.084	-.018
BINV	-.019	.000	.106	.030
BCOM1	-.078	-.013	.000	-.030
BCOM2	.122	.015	.000	.034
BSUP	-.262	-.006	.000	.000

0 LAMBDA X

	PH	BR
PH1	.000	.039
PH2	.000	.057
PS1	.000	.016
BR1	-.011	.000
BR2	-.013	.000
BR3	-.132	.000

0 BETA

	PI	BI	BCOM	BND SUP
PI	.000	-.179	-.043	-.006
BI	.000	.000	.106	.031
BCOM	.039	.000	.000	.000
BND SUP	-.262	-.006	.000	.000

0 GAMMA

	PH	BR
PI	.000	-.149
BI	.201	.000
BCOM	-.143	-.143
BND SUP	-.216	-.165

0 PHI

	PH	BR
PH	.000	
BR	.000	.000

0 PSI

PI	BI	BCOM	BND SUP
.000	.000	.000	.000

0 THETA EPS

PINV	BINV	BCOM1	BCOM2	BSUP
.071	-.219	.000	.000	.000

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0        THETA DELTA
0                PH1          PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------     --------
                 .000         .000         .000         .000         .000         .000
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-FACTOR SCORES REGRESSIONS
0        ETA
0               PINV         BINV        BCOM1        BCOM2         BSUP          PH1
+            --------     --------     --------     --------     --------     --------
      PI         .922         .037         .003         .002        -.001         .024
      BI         .109         .663         .053         .037        -.020         .014
    BCOM         .028         .173         .297         .207        -.113         .004
 BND SUP         .000        -.000        -.001        -.000         .946         .000
0        ETA
0                PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------
      PI         .006         .003        -.003        -.010        -.005
      BI         .003         .002         .028         .086         .040
    BCOM         .001         .001         .007         .023         .010
 BND SUP         .000         .000         .000         .000         .000
0        KSI
0               PINV         BINV        BCOM1        BCOM2         BSUP          PH1
+            --------     --------     --------     --------     --------     --------
      PH         .073         .014         .001         .001        -.000         .652
      BR        -.045         .126         .010         .007        -.004         .035
0        KSI
0                PH2          PS1          BR1          BR2          BR3
+            --------     --------     --------     --------     --------
      PH         .153         .093         .008         .025         .011
      BR         .008         .005         .093         .288         .133
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-STANDARDIZED SOLUTION
0        LAMBDA Y
0                 PI           BI         BCOM      BND SUP
+            --------     --------     --------     --------
    PINV         .944         .000         .000         .000
    BINV         .000         .835         .000         .000
   BCOM1         .000         .000         .632         .000
   BCOM2         .000         .000         .561         .000
    BSUP         .000         .000         .000         .187
0        LAMBDA X
0                 PH           BR
+            --------     --------
     PH1         .856         .000
     PH2         .581         .000
     PS1         .491         .000
     BR1         .000         .547
     BR2         .000         .788
     BR3         .000         .625
0        BETA
0                 PI           BI         BCOM      BND SUP
+            --------     --------     --------     --------
      PI         .000         .000         .000         .000
      BI         .441         .000         .000         .000
    BCOM         .000         .642         .000         .000
 BND SUP         .000         .000        -.106         .000
0        GAMMA
0                 PH           BR
+            --------     --------
      PI         .527         .000
      BI         .000         .586
    BCOM         .000         .000
 BND SUP         .000         .000
0        CORRELATION MATRIX OF ETA AND KSI
0                 PI           BI         BCOM      BND SUP           PH           BR
+            --------     --------     --------     --------     --------     --------
      PI        1.000
      BI         .559        1.000
    BCOM         .359         .642        1.000
 BND SUP        -.038        -.068        -.106        1.000
      PH         .527         .457         .293        -.031        1.000
      BR         .202         .675         .433        -.046         .383        1.000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0        PSI
0                 PI           BI         BCOM      BND SUP
+             --------     --------     --------     --------
                .722         .357         .588         .989
0        REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0                 PH           BR
+             --------     --------
      PI        .527         .000
      BI        .233         .586
    BCOM        .149         .376
 BND SUP       -.016        -.040
1SIMPLIFIED INV. / BS MODEL FOR CEREALS USING ML
-MODIFICATION INDICES AND ESTIMATED CHANGE
0        MODIFICATION INDICES FOR LAMBDA Y
0                 PI           BI         BCOM      BND SUP
+             --------     --------     --------     --------
    PINV        .000       22.444        5.448        1.061
    BINV        .280         .000       14.130        2.217
   BCOM1       1.341        5.190         .000        4.106
   BCOM2       3.579        4.106         .000        5.190
    BSUP        .686         .001         .000         .000
0        ESTIMATED CHANGE FOR LAMBDA Y
0                 PI           BI         BCOM      BND SUP
+             --------     --------     --------     --------
    PINV        .000         .681         .353         .321
    BINV        .081         .000        -.725        -.396
   BCOM1        .093        2.136         .000         .749
   BCOM2       -.159       -1.522         .000        -.827
    BSUP        .014         .001         .000         .000
0        MODIFICATION INDICES FOR LAMBDA X
0                 PH           BR
+             --------     --------
     PH1        .000        1.044
     PH2        .000        1.605
     PS1        .000         .155
     BR1        .029         .000
     BR2        .045         .000
     BR3       4.084         .000
0        ESTIMATED CHANGE FOR LAMBDA X
0                 PH           BR
+             --------     --------
     PH1        .000        -.146
     PH2        .000        -.152
     PS1        .000        -.052
     BR1        .015         .000
     BR2        .019         .000
     BR3        .169         .000
0        MODIFICATION INDICES FOR BETA
0                 PI           BI         BCOM      BND SUP
+             --------     --------     --------     --------
      PI        .000       22.444        1.810         .161
      BI        .000         .000       14.130        3.158
    BCOM        .280         .000         .000         .001
 BND SUP        .686         .001         .000         .000
0        ESTIMATED CHANGE FOR BETA
0                 PI           BI         BCOM      BND SUP
+             --------     --------     --------     --------
      PI        .000         .681         .231         .145
      BI        .000         .000        -.725        -.560
    BCOM       -.039         .000         .000        -.014
 BND SUP        .014         .001         .000         .000
0        MODIFICATION INDICES FOR GAMMA
0                 PH           BR
+             --------     --------
      PI        .000       16.291
      BI       9.432         .000
    BCOM       4.310       19.968
 BND SUP        .580        1.148
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Cereals Estimated Using Maximum Likelihood (cont.)

```
0         ESTIMATED CHANGE FOR GAMMA
0                   PH          BR
+              --------    --------
       PI         .000        .592
       BI        -.255        .000
     BCOM         .164        .762
  BND SUP         .015        .038
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0         MODIFICATION INDICES FOR THETA EPS
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+              --------    --------    --------    --------    --------
                 9.432      14.130        .000        .000        .000
0         ESTIMATED CHANGE FOR THETA EPS
0                 PINV        BINV       BCOM1       BCOM2        BSUP
+              --------    --------    --------    --------    --------
                 -.724        .351        .000        .000        .000
0NO NON-ZERO MODIFICATION INDICES FOR THETA DELTA
0        MAXIMUM MODIFICATION INDEX IS    22.44 FOR ELEMENT ( 1, 2) OF BETA
-          THE PROBLEM USED     14360 BYTES (=  5.5% OF AVAILABLE WORKSPACE)
-                            TIME USED :     59.5 SECONDS
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood

```
1                                DOS - L I S R E L  7.16
0                                       BY
0                            KARL G JORESKOG AND DAG SORBOM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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
 DA NI=17 NO=131   MA=CM
 CM FI=C:\MAINANAL\WAVE2\KT8.CMT
 SE
 3 4 1 2 17 8 9 5 14 15 16/
 MO NY=5 NX=6 NK=2 NE=4 BE=SD PS=DI
 LA
 'BCOM1' 'BCOM2' 'PINV' 'BINV' 'PS1' 'PS2' 'BS1' 'PH1' 'PH2' 'BH1' 'BH2' 'BH3' 'PU1'
'BR1' 'BR2' 'BR3' 'BSUP'
 LE
 'PI' 'BI' 'BCOM' 'BND SUP' /
 LK
 'PH' 'BR' /
 PA LX
 1(0 0) 2(1 0) 1(0 0) 2(0 1)
 PA LY
 3(0 0 0 0) 1(0 0 1 0) 1(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(4,1) BE(4,2) BE(3,1)
 FI  TE 1 TE 2  TE 5
 VA 1 LY(1,1) LY(2,2) LY(3,3) LY(5,4) LX(1,1) LX(4,2)
 VA .046 TE 1
 VA .137 TE 2
 VA .002 TE 5
 OU ALL AD=30 ME=ML
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0                          NUMBER OF INPUT VARIABLES 17
0                          NUMBER OF Y - VARIABLES    5
0                          NUMBER OF X - VARIABLES    6
0                          NUMBER OF ETA - VARIABLES  4
0                          NUMBER OF KSI - VARIABLES  2
0                          NUMBER OF OBSERVATIONS   131
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0        COVARIANCE MATRIX TO BE ANALYZED
0               PINV       BINV      BCOM1      BCOM2       BSUP        PH1
+           --------   --------   --------   --------   --------   --------
    PINV        .914
    BINV        .672       .948
   BCOM1        .331       .474       .888
   BCOM2        .237       .291       .350       .720
    BSUP       -.026      -.021      -.032       .009       .054
     PH1        .387       .359       .290       .146      -.032       .814
     PH2        .235       .273       .202       .067      -.018       .443
     PS1        .337       .358       .345       .230       .007       .384
     BR1        .288       .324       .259       .322      -.012       .316
     BR2        .439       .576       .334       .229      -.005       .356
     BR3        .347       .449       .309       .194       .002       .379
0        COVARIANCE MATRIX TO BE ANALYZED
0               PH2        PS1        BR1        BR2        BR3
+           --------   --------   --------   --------   --------
     PH2        .664
     PS1        .304       .810
     BR1        .203       .255       .909
     BR2        .209       .218       .329       .933
     BR3        .297       .288       .314       .455       .849
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0PARAMETER SPECIFICATIONS
0         LAMBDA Y
0                   PI          BI         BCOM      BND SUP
+             --------    --------     --------     --------
      PINV           0           0            0            0
      BINV           0           0            0            0
     BCOM1           0           0            0            0
     BCOM2           0           0            1            0
      BSUP           0           0            0            0
0         LAMBDA X
0                   PH          BR
+             --------    --------
       PH1           0           0
       PH2           2           0
       PS1           3           0
       BR1           0           0
       BR2           0           4
       BR3           0           5
0         BETA
0                   PI          BI         BCOM      BND SUP
+             --------    --------     --------     --------
        PI           0           0            0            0
        BI           6           0            0            0
      BCOM           0           7            0            0
   BND SUP           0           0            8            0
0         GAMMA
0                   PH          BR
+             --------    --------
        PI           9           0
        BI           0          10
      BCOM           0           0
   BND SUP           0           0
0         PHI
0                   PH          BR
+             --------    --------
        PH          11
        BR          12          13
0         PSI
0                   PI          BI         BCOM      BND SUP
+             --------    --------     --------     --------
                    14          15           16           17
0         THETA EPS
0                 PINV        BINV        BCOM1        BCOM2         BSUP
+             --------    --------     --------     --------     --------
                     0           0           18           19            0
0         THETA DELTA
0                  PH1         PH2          PS1          BR1          BR2          BR3
+             --------    --------     --------     --------     --------     --------
                    20          21           22           23           24           25
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                   PI          BI         BCOM      BND SUP
+             --------    --------     --------     --------
      PINV       1.000        .000         .000         .000
      BINV        .000       1.000         .000         .000
     BCOM1        .000        .000        1.000         .000
     BCOM2        .000        .000         .654         .000
      BSUP        .000        .000         .000        1.000
0         LAMBDA X
0                   PH          BR
+             --------    --------
       PH1       1.000        .000
       PH2        .744        .000
       PS1        .706        .000
       BR1        .000       1.000
       BR2        .000        .980
       BR3        .000       1.011
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        BETA
0                  PI           BI         BCOM     BND SUP
+              ________     ________     ________    ________
       PI        .000         .000         .000        .000
       BI       -.456         .000         .000        .000
     BCOM        .000         .718         .000        .000
  BND SUP        .000         .000        -.018        .000
0        GAMMA
0                  PH           BR
+              ________     ________
       PI        .681         .000
       BI        .000        1.664
     BCOM        .000         .000
  BND SUP        .000         .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                  PI           BI         BCOM     BND SUP          PH          BR
+              ________     ________     ________    ________    ________    ________
       PI        .868
       BI       -.004        1.427
     BCOM       -.003        1.025        1.019
  BND SUP        .000        -.018        -.018        .052
       PH        .390         .397         .285       -.005        .572
       BR        .235         .506         .363       -.006        .345        .368
0        PSI
0                  PI           BI         BCOM     BND SUP
+              ________     ________     ________    ________
                 .603         .583         .284        .052
0        THETA EPS
0                PINV         BINV        BCOM1       BCOM2        BSUP
+              ________     ________     ________    ________    ________
                 .046         .137         .353        .491        .002
0        THETA DELTA
0                 PH1          PH2          PS1         BR1         BR2         BR3
+              ________     ________     ________    ________    ________    ________
                 .242         .347         .525        .541        .579        .473
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0                PINV         BINV        BCOM1       BCOM2        BSUP
+              ________     ________     ________    ________    ________
                 .950         .912         .743        .471        .963
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                 PH1          PH2          PS1         BR1         BR2         BR3
+              ________     ________     ________    ________    ________    ________
                 .703         .477         .352        .405        .379        .443
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .904
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                  PI           BI         BCOM     BND SUP
+              ________     ________     ________    ________
                 .306         .591         .722        .006
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .716
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY    ABSCISSA          SLOPE              FUNCTION
0             1    0     .00000000D+00    -.51926194D+00      .73931259D+00
                   1     .10000000D+01    -.34373051D-01      .45136159D+00
0             2    0     .00000000D+00    -.16532929D+00      .45136159D+00
                   1     .10000000D+01    -.60341535D-01      .31647815D+00
                   2     .15747483D+01     .56842955D+00      .39960409D+00
                   3     .10551571D+01    -.40809586D-01      .31367283D+00
                   4     .10899617D+01    -.26581851D-01      .31249540D+00
                   5     .11116193D+01    -.16874705D-01      .31202357D+00
                   6     .11249716D+01    -.10533322D-01      .31184027D+00
0             3    0     .00000000D+00    -.90152389D-01      .31184027D+00
                   1     .11249716D+01     .71308057D+00      .42716583D+00
                   2     .12626334D+00    -.77323885D-01      .30122374D+00
                   3     .22396522D+00    -.64097301D-01      .29428779D+00
                   4     .29827521D+00    -.51495700D-01      .28997750D+00
                   5     .35395482D+00    -.40259260D-01      .28741518D+00
                   6     .39515876D+00    -.30768968D-01      .28594815D+00
                   7     .42534710D+00    -.23092400D-01      .28513353D+00
                   8     .44729305D+00    -.17087919D-01      .28469195D+00
                   9     .46315256D+00    -.12509734D-01      .28445697D+00
                  10     .47456283D+00    -.90850719D-02      .28433366D+00
                  11     .48274518D+00    -.65591390D-02      .28426962D+00
0             4    0     .00000000D+00    -.60646203D-01      .28426962D+00
```

		1	.48274518D+00	-.33379308D-01	.26142652D+00
		2	.10737072D+01	.50015950D-02	.25277317D+00
0	5	0	.00000000D+00	-.12098137D-01	.25277317D+00
		1	.10737072D+01	.15316845D-01	.25328860D+00
		2	.47382328D+00	-.15736743D-02	.24949194D+00
		3	.52971392D+00	-.23493565D-03	.24944126D+00
0	6	0	.00000000D+00	-.29869531D-02	.24944126D+00
		1	.52971392D+00	-.10071755D-02	.24839128D+00
		2	.79919614D+00	-.64178458D-04	.24824782D+00
0	7	0	.00000000D+00	-.59989598D-03	.24824782D+00
		1	.79919614D+00	-.15204422D-03	.24794660D+00
		2	.10705206D+01	.25668738D-05	.24792629D+00
0	8	0	.00000000D+00	-.53841692D-04	.24792629D+00
		1	.10705206D+01	.16588987D-06	.24789755D+00
0	9	0	.00000000D+00	-.45697222D-05	.24789755D+00
		1	.10705206D+01	-.28786222D-06	.24789495D+00
0	10	0	.00000000D+00	-.12178949D-05	.24789495D+00
		1	.10705206D+01	-.58820012D-06	.24789398D+00
		2	.20704978D+01	-.17702308D-08	.24789369D+00
0	11	0	.00000000D+00	-.40974002D-06	.24789369D+00
		1	.20704978D+01	.12437291D-07	.24789328D+00
0	12	0	.00000000D+00	-.80468587D-07	.24789328D+00
		1	.20704978D+01	.62781667D-07	.24789326D+00
		2	.11630697D+01	-.57864957D-13	.24789323D+00
0	13	0	.00000000D+00	-.15310079D-07	.24789323D+00
		1	.11630697D+01	-.20519314D-08	.24789322D+00
		2	.13430752D+01	.12353475D-12	.24789322D+00
0	14	0	.00000000D+00	-.24227156D-08	.24789322D+00
		1	.13430752D+01	-.53303071D-09	.24789322D+00
		2	.17219216D+01	-.12357955D-13	.24789322D+00
0	15	0	.00000000D+00	-.47579756D-09	.24789322D+00
		1	.17219216D+01	-.21424352D-10	.24789322D+00
0	16	0	.00000000D+00	-.29942896D-10	.24789322D+00
		1	.17219216D+01	.14308669D-10	.24789322D+00
		2	.11651411D+01	-.26142259D-16	.24789322D+00
0	17	0	.00000000D+00	-.19379383D-11	.24789322D+00
		1	.11651411D+01	-.36822401D-12	.24789322D+00
		2	.14384602D+01	.22466257D-18	.24789322D+00

1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0 LAMBDA Y
0

	PI	BI	BCOM	BND SUP
PINV	1.000	.000	.000	.000
BINV	.000	1.000	.000	.000
BCOM1	.000	.000	1.000	.000
BCOM2	.000	.000	.613	.000
BSUP	.000	.000	.000	1.000

0 LAMBDA X
0

	PH	BR
PH1	1.000	.000
PH2	.755	.000
PS1	.749	.000
BR1	.000	1.000
BR2	.000	1.438
BR3	.000	1.354

0 BETA
0

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.509	.000	.000	.000
BCOM	.000	.588	.000	.000
BND SUP	.000	.000	-.042	.000

0 GAMMA
0

	PH	BR
PI	.769	.000
BI	.000	.898
BCOM	.000	.000
BND SUP	.000	.000

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        COVARIANCE MATRIX OF ETA AND KSI
0                 PI          BI        BCOM     BND SUP          PH          BR
+           --------    --------    --------    --------    --------    --------
        PI      .868
        BI      .627        .776
      BCOM      .369        .456        .557
   BND SUP     -.015       -.019       -.023        .052
        PH      .408        .448        .263       -.011        .530
        BR      .206        .320        .188       -.008        .268        .240
0        PSI
0                 PI          BI        BCOM     BND SUP
+           --------    --------    --------    --------
                .555        .169        .289        .051
0        THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+           --------    --------    --------    --------    --------
                .046        .137        .319        .506        .002
0        THETA DELTA
0                PH1         PH2         PS1         BR1         BR2         BR3
+           --------    --------    --------    --------    --------    --------
                .284        .362        .512        .669        .436        .409
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0               PINV        BINV       BCOM1       BCOM2        BSUP
+           --------    --------    --------    --------    --------
                .950        .850        .636        .293        .963
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0                PH1         PH2         PS1         BR1         BR2         BR3
+           --------    --------    --------    --------    --------    --------
                .651        .455        .367        .264        .532        .518
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .905
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 PI          BI        BCOM     BND SUP
+           --------    --------    --------    --------
                .361        .782        .481        .019
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .666


0         CHI-SQUARE WITH  41 DEGREES OF FREEDOM =     64.45 (P = .011)
0                      GOODNESS OF FIT INDEX = .918
              ADJUSTED GOODNESS OF FIT INDEX = .868
                  ROOT MEAN SQUARE RESIDUAL =      .054
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
0        FITTED COVARIANCE MATRIX
0               PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+           --------    --------    --------    --------    --------    --------
      PINV      .914
      BINV      .627        .913
     BCOM1      .369        .456        .876
     BCOM2      .226        .280        .342        .716
      BSUP     -.015       -.019       -.023       -.014        .054
       PH1      .408        .448        .263        .162       -.011        .814
       PH2      .308        .338        .199        .122       -.008        .401
       PS1      .306        .336        .197        .121       -.008        .397
       BR1      .206        .320        .188        .116       -.008        .268
       BR2      .296        .461        .271        .166       -.011        .385
       BR3      .279        .434        .255        .156       -.011        .362
0        FITTED COVARIANCE MATRIX
0                PH2         PS1         BR1         BR2         BR3
+           --------    --------    --------    --------    --------
       PH2      .664
       PS1      .300        .810
       BR1      .202        .200        .909
       BR2      .291        .288        .345        .933
       BR3      .274        .271        .325        .468        .849
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

0 FITTED RESIDUALS

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PINV	-.000					
BINV	.045	.035				
BCOM1	-.038	.018	.012			
BCOM2	.011	.012	.008	.004		
BSUP	-.011	-.002	-.008	.023	.000	
PH1	-.021	-.089	.026	-.016	-.020	.000
PH2	-.073	-.066	.003	-.055	-.010	.042
PS1	.031	.022	.148	.109	.015	-.013
BR1	.082	.003	.070	.206	-.004	.048
BR2	.143	.115	.063	.063	.006	-.029
BR3	.068	.015	.054	.037	.012	.017

0 FITTED RESIDUALS

	PH2	PS1	BR1	BR2	BR3
PH2	.000				
PS1	.004	.000			
BR1	.001	.054	.000		
BR2	-.081	-.070	-.016	.000	
BR3	.023	.017	-.011	-.012	.000

-SUMMARY STATISTICS FOR FITTED RESIDUALS

SMALLEST FITTED RESIDUAL = -.089
MEDIAN FITTED RESIDUAL = .005
LARGEST FITTED RESIDUAL = .206

-STEMLEAF PLOT

```
 - 0|987776
 - 0|4322221111110000000000000000
   0|11111112222222334444
   0|55566778
   1|114
   1|5
   2|1
```

0 STANDARDIZED RESIDUALS

	PINV	BINV	BCOM1	BCOM2	BSUP	PH1
PINV	.000					
BINV	3.395	2.969				
BCOM1	-.958	1.226	.284			
BCOM2	.269	.697	1.692	.090		
BSUP	-.709	-.129	-1.207	1.757	.000	
PH1	-.943	-3.008	.521	-.317	-1.261	.000
PH2	-2.279	-1.956	.066	-1.120	-.646	2.928
PS1	.771	.538	2.547	1.934	.897	-.667
BR1	1.364	.076	1.126	3.378	-.219	1.077
BR2	2.855	3.840	1.158	1.146	.337	-.913
BR3	1.408	.511	1.027	.708	.728	.554

0 STANDARDIZED RESIDUALS

	PH2	PS1	BR1	BR2	BR3
PH2	.000				
PS1	.120	.000			
BR1	.015	.972	.000		
BR2	-2.152	-1.527	-.449	.000	
BR3	.628	.375	-.320	-.639	.000

-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS

SMALLEST STANDARDIZED RESIDUAL = -3.008
MEDIAN STANDARDIZED RESIDUAL = .195
LARGEST STANDARDIZED RESIDUAL = 3.840

-STEMLEAF PLOT

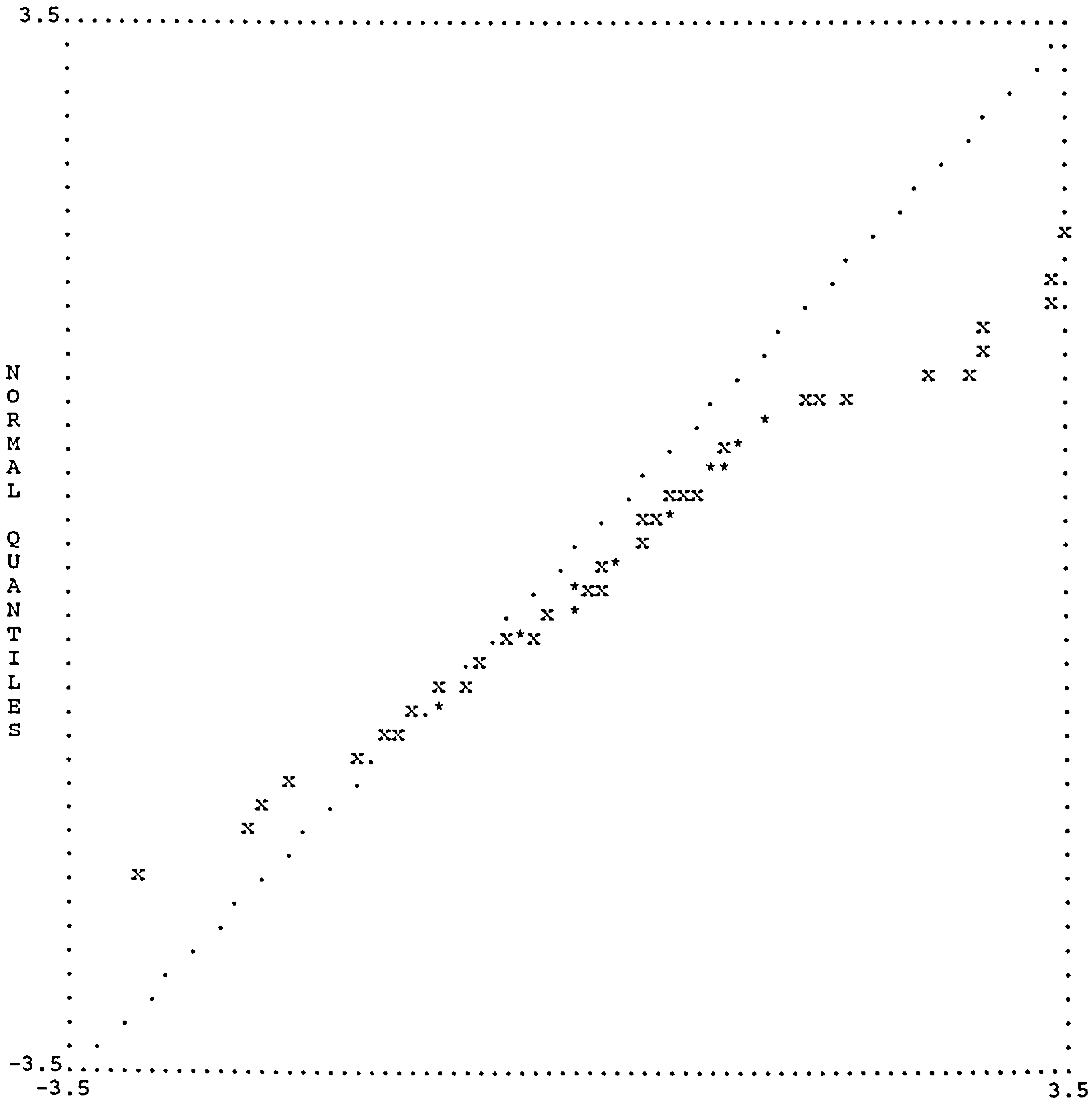
```
 - 3|0
 - 2|320
 - 1|53210
 - 0|99776643321000000000
   0|111133345556677789
   1|001112244789
   2|599
   3|0448
```

-LARGEST NEGATIVE STANDARDIZED RESIDUALS

0RESIDUAL FOR PH1 AND BINV = -3.008

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR     BINV AND      PINV =   3.395
0RESIDUAL FOR     BINV AND      BINV =   2.969
0RESIDUAL FOR      PH2 AND       PH1 =   2.928
0RESIDUAL FOR      BR1 AND     BCOM2 =   3.378
0RESIDUAL FOR      BR2 AND      PINV =   2.855
0RESIDUAL FOR      BR2 AND      BINV =   3.840
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-                        QPLOT OF STANDARDIZED RESIDUALS
```




```
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-STANDARD ERRORS
0        LAMBDA Y
0
+
```

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	.140	.000
BSUP	.000	.000	.000	.000

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

0 LAMBDA X

0 +

	PH	BR
PH1	.000	.000
PH2	.107	.000
PS1	.118	.000
BR1	.000	.000
BR2	.000	.282
BR3	.000	.267

0 BETA

0 +

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.069	.000	.000	.000
BCOM	.000	.086	.000	.000
BND SUP	.000	.000	.032	.000

0 GAMMA

0 +

	PH	BR
PI	.125	.000
BI	.000	.206
BCOM	.000	.000
BND SUP	.000	.000

0 PHI

0 +

	PH	BR
PH	.107	
BR	.065	.085

0 PSI

0 +

PI	BI	BCOM	BND SUP
.085	.046	.116	.007

0 THETA EPS

0 +

PINV	BINV	BCOM1	BCOM2	BSUP
.000	.000	.118	.076	.000

0 THETA DELTA

0 +

PH1	PH2	PS1	BR1	BR2	BR3
.061	.056	.073	.091	.077	.071

1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML

0 CORRELATIONS OF ESTIMATES

0 +

	LY 4,3	LX 2,1	LX 3,1	LX 5,2	LX 6,2	BE 2,1
LY 4,3	1.000					
LX 2,1	.000	1.000				
LX 3,1	.000	.342	1.000			
LX 5,2	.000	-.000	-.000	1.000		
LX 6,2	.000	-.000	-.000	.720	1.000	
BE 2,1	.000	-.014	-.013	.015	.013	1.000
BE 3,2	-.305	.000	.000	.000	.000	-.078
BE 4,3	-.134	.000	.000	.000	.000	.000
GA 1,1	.000	.330	.294	-.001	-.000	-.069
GA 2,2	.000	.005	.004	.616	.614	-.379
PH 1,1	.000	-.498	-.442	.001	.000	.027
PH 2,1	.000	-.191	-.168	-.599	-.594	-.044
PH 2,2	.000	-.000	-.000	-.809	-.804	.019
PS 1,1	.000	-.025	-.024	.000	.000	-.003
PS 2,2	.000	-.002	-.002	.013	.011	.107
PS 3,3	-.591	.000	.000	.000	.000	.006
PS 4,4	-.006	.000	.000	.000	.000	.000
TE 3,3	.605	.000	.000	.000	.000	.000
TE 4,4	-.360	.000	.000	.000	.000	.000
TD 1,1	.000	.368	.319	-.001	-.001	-.047
TD 2,2	.000	-.285	-.040	-.000	-.000	-.009
TD 3,3	.000	-.027	-.226	-.000	.000	-.005
TD 4,4	.000	.000	.000	.180	.178	-.017
TD 5,5	.000	.001	.001	-.229	.022	-.080
TD 6,6	.000	.001	.001	.023	-.222	-.073

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

0 CORRELATIONS OF ESTIMATES

0 +

	BE 3,2	BE 4,3	GA 1,1	GA 2,2	PH 1,1	PH 2,1
BE 3,2	1.000					
BE 4,3	.084	1.000				
GA 1,1	.000	.000	1.000			
GA 2,2	-.046	.000	.003	1.000		
PH 1,1	.000	.000	-.427	-.009	1.000	
PH 2,1	.000	.000	-.161	-.488	.541	1.000
PH 2,2	.000	.000	-.001	-.695	.121	.812
PS 1,1	.000	.000	-.218	.004	.049	.025
PS 2,2	-.075	.000	-.002	-.199	.004	.019
PS 3,3	.119	.165	.000	.003	.000	.000
PS 4,4	.004	.057	.000	.000	.000	.000
TE 3,3	-.188	-.165	.000	.000	.000	.000
TE 4,4	.109	.041	.000	.000	.000	.000
TD 1,1	.000	.000	.309	.016	-.383	-.104
TD 2,2	.000	.000	-.038	.003	.083	.045
TD 3,3	.000	.000	-.024	.002	.053	.028
TD 4,4	.000	.000	.001	.157	-.001	-.127
TD 5,5	.000	.000	.003	.037	-.003	.062
TD 6,6	.000	.000	.003	.033	-.003	.056

0 CORRELATIONS OF ESTIMATES

0 +

	PH 2,2	PS 1,1	PS 2,2	PS 3,3	PS 4,4	TE 3,3
PH 2,2	1.000					
PS 1,1	.000	1.000				
PS 2,2	.016	.000	1.000			
PS 3,3	.000	.000	-.012	1.000		
PS 4,4	.000	.000	.000	.007	1.000	
TE 3,3	.000	.000	.000	-.769	-.010	1.000
TE 4,4	.000	.000	.000	.179	.002	-.250
TD 1,1	-.001	-.086	-.007	.000	.000	.000
TD 2,2	-.000	-.016	-.001	.000	.000	.000
TD 3,3	-.000	-.010	-.001	.000	.000	.000
TD 4,4	-.185	-.000	-.015	.000	.000	.000
TD 5,5	.032	-.001	-.071	.000	.000	.000
TD 6,6	.029	-.001	-.064	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

0 +

	TE 4,4	TD 1,1	TD 2,2	TD 3,3	TD 4,4	TD 5,5
TE 4,4	1.000					
TD 1,1	.000	1.000				
TD 2,2	.000	-.145	1.000			
TD 3,3	.000	-.092	-.017	1.000		
TD 4,4	.000	.001	.000	.000	1.000	
TD 5,5	.000	.005	.001	.001	-.030	1.000
TD 6,6	.000	.005	.001	.001	-.027	-.124

0 CORRELATIONS OF ESTIMATES

0 +

	TD 6,6
TD 6,6	1.000

1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML

-T-VALUES

0 LAMBDA Y

0 +

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.000	.000	.000	.000
BCOM1	.000	.000	.000	.000
BCOM2	.000	.000	4.366	.000
BSUP	.000	.000	.000	.000

0 LAMBDA X

0 +

	PH	BR
PH1	.000	.000
PH2	7.065	.000
PS1	6.373	.000
BR1	.000	.000
BR2	.000	5.107
BR3	.000	5.081

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        BETA
0                 PI           BI           BCOM         BND SUP
+              --------     --------     --------     --------
      PI          .000         .000         .000         .000
      BI         7.365         .000         .000         .000
    BCOM          .000        6.868         .000         .000
 BND SUP          .000         .000       -1.307         .000
0        GAMMA
0                 PH           BR
+              --------     --------
      PI         6.138         .000
      BI          .000        4.369
    BCOM          .000         .000
 BND SUP          .000         .000
0        PHI
0                 PH           BR
+              --------     --------
      PH         4.950
      BR         4.119        2.816
0        PSI
0                 PI           BI           BCOM         BND SUP
+              --------     --------     --------     --------
                 6.548        3.677        2.484        7.709
0        THETA EPS
0                 PINV         BINV         BCOM1        BCOM2        BSUP
+              --------     --------     --------     --------     --------
                  .000         .000        2.710        6.692         .000
0        THETA DELTA
0                 PH1          PH2          PS1          BR1          BR2          BR3
+              --------     --------     --------     --------     --------     --------
                 4.631        6.507        7.002        7.332        5.668        5.799
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-TOTAL AND INDIRECT EFFECTS
0        TOTAL EFFECTS OF KSI ON  ETA
0                 PH           BR
+              --------     --------
      PI          .769         .000
      BI          .392         .898
    BCOM          .230         .528
 BND SUP         -.010        -.022
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0                 PH           BR
+              --------     --------
      PI          .125         .000
      BI          .080         .206
    BCOM          .056         .140
 BND SUP          .008         .018
0        INDIRECT EFFECTS OF KSI ON  ETA
0                 PH           BR
+              --------     --------
      PI          .000         .000
      BI          .392         .000
    BCOM          .230         .528
 BND SUP         -.010        -.022
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0                 PH           BR
+              --------     --------
      PI          .000         .000
      BI          .080         .000
    BCOM          .056         .140
 BND SUP          .008         .018
0        TOTAL EFFECTS OF ETA ON  ETA
0                 PI           BI           BCOM         BND SUP
+              --------     --------     --------     --------
      PI          .000         .000         .000         .000
      BI          .509         .000         .000         .000
    BCOM          .299         .588         .000         .000
 BND SUP         -.013        -.025        -.042         .000
0   LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS     .346
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.069	.000	.000	.000
BCOM	.057	.086	.000	.000
BND SUP	.010	.019	.032	.000

0 INDIRECT EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.000	.000	.000	.000
BCOM	.299	.000	.000	.000
BND SUP	-.013	-.025	.000	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON ETA

	PI	BI	BCOM	BND SUP
PI	.000	.000	.000	.000
BI	.000	.000	.000	.000
BCOM	.057	.000	.000	.000
BND SUP	.010	.019	.000	.000

0 TOTAL EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	1.000	.000	.000	.000
BINV	.509	1.000	.000	.000
BCOM1	.299	.588	1.000	.000
BCOM2	.184	.361	.613	.000
BSUP	-.013	-.025	-.042	1.000

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.069	.000	.000	.000
BCOM1	.057	.086	.000	.000
BCOM2	.048	.083	.140	.000
BSUP	.010	.019	.032	.000

0 INDIRECT EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.509	.000	.000	.000
BCOM1	.299	.588	.000	.000
BCOM2	.184	.361	.000	.000
BSUP	-.013	-.025	-.042	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON Y

	PI	BI	BCOM	BND SUP
PINV	.000	.000	.000	.000
BINV	.069	.000	.000	.000
BCOM1	.057	.086	.000	.000
BCOM2	.048	.083	.000	.000
BSUP	.010	.019	.032	.000

0 TOTAL EFFECTS OF KSI ON Y

	PH	BR
PINV	.769	.000
BINV	.392	.898
BCOM1	.230	.528
BCOM2	.141	.324
BSUP	-.010	-.022

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON Y

	PH	BR
PINV	.125	.000
BINV	.080	.206
BCOM1	.056	.140
BCOM2	.043	.104
BSUP	.008	.018

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-COVARIANCES
0         Y - ETA
0              PINV        BINV       BCOM1       BCOM2        BSUP
+         ________    ________    ________    ________    ________
      PI      .868        .627        .369        .226       -.015
      BI      .627        .776        .456        .280       -.019
    BCOM      .369        .456        .557        .342       -.023
 BND SUP     -.015       -.019       -.023       -.014        .052
0         Y - KSI
0              PINV        BINV       BCOM1       BCOM2        BSUP
+         ________    ________    ________    ________    ________
      PH      .408        .448        .263        .162       -.011
      BR      .206        .320        .188        .116       -.008
0         X - ETA
0               PH1         PH2         PS1         BR1         BR2         BR3
+         ________    ________    ________    ________    ________    ________
      PI      .408        .308        .306        .206        .296        .279
      BI      .448        .338        .336        .320        .461        .434
    BCOM      .263        .199        .197        .188        .271        .255
 BND SUP     -.011       -.008       -.008       -.008       -.011       -.011
0         X - KSI
0               PH1         PH2         PS1         BR1         BR2         BR3
+         ________    ________    ________    ________    ________    ________
      PH      .530        .401        .397        .268        .385        .362
      BR      .268        .202        .200        .240        .345        .325
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-FIRST ORDER DERIVATIVES
0         LAMBDA Y
0                PI          BI        BCOM     BND SUP
+         ________    ________    ________    ________
    PINV      .000       -.076        .022        .013
    BINV     -.044        .000        .006       -.006
   BCOM1      .096        .011        .000        .024
   BCOM2     -.020       -.016        .000       -.045
    BSUP      .196        .031        .000        .000
0         LAMBDA X
0                PH          BR
+         ________    ________
     PH1      .000        .026
     PH2      .000        .033
     PS1      .000        .002
     BR1     -.046        .000
     BR2      .037        .000
     BR3     -.047        .000
0         BETA
0                PI          BI        BCOM     BND SUP
+         ________    ________    ________    ________
      PI      .000       -.076        .025        .009
      BI      .000        .000        .006       -.008
    BCOM      .075        .000        .000       -.003
 BND SUP      .196        .031        .000        .000
0         GAMMA
0                PH          BR
+         ________    ________
      PI      .000       -.068
      BI      .062        .000
    BCOM     -.076       -.047
 BND SUP      .114       -.047
0         PHI
0                PH          BR
+         ________    ________
      PH      .000
      BR      .000        .000
0         PSI
0                PI          BI        BCOM     BND SUP
+         ________    ________    ________    ________
              .000        .000        .000        .000
0         THETA EPS
0              PINV        BINV       BCOM1       BCOM2        BSUP
+         ________    ________    ________    ________    ________
              .044       -.013        .000        .000        .000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        THETA DELTA
0              PH1         PH2         PS1         BR1         BR2         BR3
+         --------    --------    --------    --------    --------    --------
              .000        .000        .000        .000        .000        .000
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-FACTOR SCORES REGRESSIONS
0        ETA
0             PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+         --------    --------    --------    --------    --------    --------
       PI     .898        .060        .007        .003       -.002        .015
       BI     .179        .590        .070        .027       -.018        .030
     BCOM     .049        .163        .445        .172       -.112        .008
  BND SUP     .000       -.000       -.001       -.000        .962        .000
0        ETA
0              PH2         PS1         BR1         BR2         BR3
+         --------    --------    --------    --------    --------
       PI     .009        .006       -.003       -.006       -.006
       BI     .018        .012        .027        .059        .059
     BCOM     .005        .003        .007        .016        .016
  BND SUP     .000        .000        .000        .000        .000
0        KSI
0             PINV        BINV       BCOM1       BCOM2        BSUP         PH1
+         --------    --------    --------    --------    --------    --------
       PH     .090        .061        .007        .003       -.002        .335
       BR    -.042        .131        .016        .006       -.004        .069
0        KSI
0              PH2         PS1         BR1         BR2         BR3
+         --------    --------    --------    --------    --------
       PH     .198        .139        .029        .065        .065
       BR     .041        .029        .071        .157        .158
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-STANDARDIZED SOLUTION
0        LAMBDA Y
0               PI          BI        BCOM     BND SUP
+         --------    --------    --------    --------
     PINV     .932        .000        .000        .000
     BINV     .000        .881        .000        .000
    BCOM1     .000        .000        .747        .000
    BCOM2     .000        .000        .458        .000
     BSUP     .000        .000        .000        .228
0        LAMBDA X
0               PH          BR
+         --------    --------
      PH1     .728        .000
      PH2     .550        .000
      PS1     .546        .000
      BR1     .000        .490
      BR2     .000        .705
      BR3     .000        .664
0        BETA
0               PI          BI        BCOM     BND SUP
+         --------    --------    --------    --------
       PI     .000        .000        .000        .000
       BI     .539        .000        .000        .000
     BCOM     .000        .694        .000        .000
  BND SUP     .000        .000       -.137        .000
0        GAMMA
0               PH          BR
+         --------    --------
       PI     .601        .000
       BI     .000        .500
     BCOM     .000        .000
  BND SUP     .000        .000
0        CORRELATION MATRIX OF ETA AND KSI
0               PI          BI        BCOM     BND SUP          PH          BR
+         --------    --------    --------    --------    --------    --------
       PI    1.000
       BI     .764       1.000
     BCOM     .530        .694       1.000
  BND SUP    -.072       -.095       -.137       1.000
       PH     .601        .698        .484       -.066       1.000
       BR     .451        .742        .515       -.070        .750       1.000
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        PSI
0                 PI          BI          BCOM      BND SUP
+             --------    --------    --------    --------
                  .639        .218        .519        .981
0        REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0                 PH          BR
+             --------    --------
       PI         .601        .000
       BI         .324        .500
     BCOM         .225        .347
  BND SUP        -.031       -.047
1SIMPLIFIED INV. / BS MODEL FOR KITCHEN TOWELS USING ML
-MODIFICATION INDICES AND ESTIMATED CHANGE
0        MODIFICATION INDICES FOR LAMBDA Y
0                 PI          BI          BCOM      BND SUP
+             --------    --------    --------    --------
     PINV         .000      10.611        .191        .200
     BINV        1.593        .000        .017        .034
    BCOM1        2.530       3.168        .000       1.292
    BCOM2         .107       1.292        .000       3.168
     BSUP         .533        .029        .000        .000
0        ESTIMATED CHANGE FOR LAMBDA Y
0                 PI          BI          BCOM      BND SUP
+             --------    --------    --------    --------
     PINV         .000       1.078       -.067       -.119
     BINV         .278        .000       -.021        .043
    BCOM1        -.204      -2.207        .000       -.412
    BCOM2         .040        .627        .000        .546
     BSUP        -.021       -.007        .000        .000
0        MODIFICATION INDICES FOR LAMBDA X
0                 PH          BR
+             --------    --------
      PH1         .000       1.480
      PH2         .000       1.566
      PS1         .000        .005
      BR1        1.975        .000
      BR2        1.519        .000
      BR3        2.113        .000
0        ESTIMATED CHANGE FOR LAMBDA X
0                 PH          BR
+             --------    --------
      PH1         .000       -.433
      PH2         .000       -.366
      PS1         .000       -.023
      BR1         .329        .000
      BR2        -.313        .000
      BR3         .350        .000
0        MODIFICATION INDICES FOR BETA
0                 PI          BI          BCOM      BND SUP
+             --------    --------    --------    --------
       PI         .000      10.611        .437        .160
       BI         .000        .000        .017        .076
     BCOM        1.593        .000        .000        .029
  BND SUP         .533        .029        .000        .000
0        ESTIMATED CHANGE FOR BETA
0                 PI          BI          BCOM      BND SUP
+             --------    --------    --------    --------
       PI         .000       1.078       -.133       -.139
       BI         .000        .000       -.021        .072
     BCOM        -.164        .000        .000        .069
  BND SUP        -.021       -.007        .000        .000
0        MODIFICATION INDICES FOR GAMMA
0                 PH          BR
+             --------    --------
       PI         .000       9.503
       BI        2.467        .000
     BCOM        2.863       2.769
  BND SUP         .336        .139
```

Appendix V - LISREL Output from Simplified Involvement / Brand Support Model for Kitchen Towels Estimated Using Maximum Likelihood (cont.)

```
0        ESTIMATED CHANGE FOR GAMMA
0                PH          BR
+           --------    --------
       PI       .000       1.073
       BI      -.307        .000
     BCOM       .288        .458
  BND SUP      -.023        .023
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0        MODIFICATION INDICES FOR THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+           --------    --------    --------    --------    --------
               2.467        .017        .000        .000        .000
0        ESTIMATED CHANGE FOR THETA EPS
0               PINV        BINV       BCOM1       BCOM2        BSUP
+           --------    --------    --------    --------    --------
               -.434        .010        .000        .000        .000
0NO NON-ZERO MODIFICATION INDICES FOR THETA DELTA
0       MAXIMUM MODIFICATION INDEX IS    10.61 FOR ELEMENT ( 1, 2) OF BETA
-         THE PROBLEM USED     14360 BYTES (=  5.5% OF AVAILABLE WORKSPACE)
-                          TIME USED :     66.0 SECONDS
```

Appendix VI

- Cluster Analysis of Brand Commitment and Support

- Cluster Analysis
- Switching Motivate Cross Tabs
- ANOVA for Clusters on Brand Risk and Product Involvement

Appendix VI - Cluster Analysis of Brand Commitment and Brand Support

```
-> QUICK CLUSTER
->   var058 var059
->   /MISSING=LISTWISE
->   /CRITERIA= CLUSTER(4) MXITER(10) CONVERGE(.02)
->   /METHOD=KMEANS(NOUPDATE)
->   /SAVE CLUSTER (CLUSTER)
->   /PRINT INITIAL.
```

There are 519,064 bytes of memory available.
The largest contiguous area has 519,064 bytes.

QUICK CLUSTER requires 496 bytes of workspace for execution.

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* * * * * * Q U I C K   C L U S T E R * * * * * *

Initial Cluster Centers.

Cluster	VAR058	VAR059
1	10.0000	9.1942
2	2.0000	6.2389
3	10.0000	.7000
4	4.0000	.7526

- -

Convergence achieved due to no or small distance change.
The maximum distance by which any center has changed is .1156
Current iteration is 3

Minimum distance between initial centers is 5.8395

Iteration	Change in Cluster Centers 1	2	3	4
1	2.4863	2.3990	2.1549	1.3407
2	.0834	.2447	.4185	.5206
3	.0457	.1508	.1259	.1312

Final Cluster Centers.

Cluster	VAR058	VAR059
1	8.2778	7.3579
2	4.7059	5.4911
3	7.6389	2.1583
4	3.7684	1.7301

- -

Number of Cases in each Cluster.

Cluster	unweighted cases	weighted cases
1	72.0	72.0
2	34.0	34.0
3	180.0	180.0
4	177.0	177.0
Missing	104	
Valid cases	463.0	463.0

Appendix VI - Cluster Analysis of Brand Commitment and Brand Support (cont.)

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Variable Saved into Working File.

CLUSTER (Cluster Number)

- -

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Preceding task required 52.79 seconds elapsed.

-> VALUE LABELS CLUSTER 1 'Loyals' 2 'Habits' 3 'Variety Seekers' 4 'Switchers'.

-> CROSSTABS /TABLES= VAR033 BY CLUSTER.

There are 520,568 bytes of memory available.
The largest contiguous area has 520,312 bytes.

Memory allows for 11,825 cells with 2 dimensions for general CROSSTABS.

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VAR033 PROD by CLUSTER

Page 1 of 1

VAR033	Count	CLUSTER Loyals 1	Habits 2	Variety Seekers 3	Switchers 4	Row Total
K TOWELS	1.00		11	26	93	130 28.1
CEREALS	2.00	1	4	108	71	184 39.7
NEWSPAPERS	3.00	71	19	46	13	149 32.2
	Column Total	72 15.6	34 7.3	180 38.9	177 38.2	463 100.0

Number of Missing Observations: 104

Appendix VI - Crosstabs of Switching Motivates by Cluster

```
-> CROSSTABS
->   /TABLES=var036 var037 var038 var039 var040 var041 var042 var043 var044
->   var045 var046 var047 var048  BY cluster
->   /FORMAT= AVALUE NOINDEX BOX LABELS TABLES
->   /CELLS= COUNT .

There are 2,092,976 bytes of memory available.
The largest contiguous area has 2,092,272 bytes.

Memory allows for 47,551 cells with 2 dimensions for general CROSSTABS.

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VAR036  SW PACK  by  CLUSTER

                   CLUSTER       Page 1 of 1
           Count  |
                  |Variety  Switcher
                  |Seekers  s          Row
                  |       3|       4| Total
VAR036    --------+--------+--------+
            1.00  |    2   |    2   |    4
  1 Reported Switc|        |        | 100.0
                  +--------+--------+
          Column       2        2        4
           Total    50.0     50.0    100.0


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VAR037  SW TRIAL  by  CLUSTER

                   CLUSTER                     Page 1 of 1
           Count  |
                  |Loyals   Variety  Switcher
                  |         Seekers  s          Row
                  |       1|       3|       4| Total
VAR037    --------+--------+--------+--------+
            1.00  |        |    6   |    4   |    10
  1 Reported Switc|        |        |        |  90.9
                  +--------+--------+--------+
            2.00  |    1   |        |        |     1
  2 Reported Switc|        |        |        |   9.1
                  +--------+--------+--------+
          Column       1        6        4       11
           Total     9.1     54.5     36.4    100.0
```

Appendix VI - Crosstabs of Switching Motivates by Cluster (cont.)

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VAR038 SW PRICE by CLUSTER

CLUSTER — Page 1 of 1

VAR038 (Count)	Habits 2	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc		6	18	24 57.1
2.00 2 Reported Switc		5	7	12 28.6
3.00 3 Reported Switc			4	4 9.5
5.00 5 Reported Switc			1	1 2.4
6.00 6 Reported Switc	1			1 2.4
Column Total	1 2.4	11 26.2	30 71.4	42 100.0

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VAR039 SW STORE LOC by CLUSTER

CLUSTER — Page 1 of 1

VAR039 (Count)	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	1	2	3 100.0
Column Total	1 33.3	2 66.7	3 100.0

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VAR040   SW PROD QUAL/FEAT   by   CLUSTER

CLUSTER — Page 1 of 1

VAR040 (Count)	Loyals 1	Habits 2	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	6	3	18	6	33 71.7
2.00 2 Reported Switc	2	3	4	2	11 23.9
3.00 3 Reported Switc	1				1 2.2
4.00 4 Reported Switc			1		1 2.2
Column Total	9 19.6	6 13.0	23 50.0	8 17.4	46 100.0

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VAR041   SW VOUCHERS   by   CLUSTER

CLUSTER — Page 1 of 1

VAR041 (Count)	Habits 2	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc			2	2 40.0
2.00 2 Reported Switc		1		1 20.0
4.00 4 Reported Switc	1			1 20.0
6.00 6 Reported Switc			1	1 20.0
Column Total	1 20.0	1 20.0	3 60.0	5 100.0

Appendix VI - Crosstabs of Switching Motivates by Cluster (cont.)

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VAR042 SW FREE GIFT by CLUSTER

CLUSTER Page 1 of 1

VAR042 Count	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	2	3	5 83.3
4.00 4 Reported Switc		1	1 16.7
Column Total	2 33.3	4 66.7	6 100.0

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VAR044 SW VARIETY by CLUSTER

CLUSTER Page 1 of 1

VAR044 Count	Loyals 1	Habits 2	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	1		16	16	33 61.1
2.00 2 Reported Switc		1	4	8	13 24.1
3.00 3 Reported Switc			2		2 3.7
4.00 4 Reported Switc			5	1	6 11.1
Column Total	1 1.9	1 1.9	27 50.0	25 46.3	54 100.0

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VAR045 SW OUT OF STOCK by CLUSTER

CLUSTER — Page 1 of 1

VAR045 (Count)	Loyals 1	Habits 2	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	4	2	10	5	21 51.2
2.00 2 Reported Switc	5	2	4	1	12 29.3
3.00 3 Reported Switc		1	1		2 4.9
4.00 4 Reported Switc		3	1		4 9.8
6.00 6 Reported Switc	1	1			2 4.9
Column Total	10 24.4	9 22.0	16 39.0	6 14.6	41 100.0

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VAR046 SW CHILDREN by CLUSTER

CLUSTER — Page 1 of 1

VAR046 (Count)	Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	15	7	22 46.8
2.00 2 Reported Switc	8	8	16 34.0
3.00 3 Reported Switc	1	3	4 8.5
4.00 4 Reported Switc	4		4 8.5
7.00 7 reported Switc		1	1 2.1
Column Total	28 59.6	19 40.4	47 100.0

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VAR047 SW TV ADVERT by CLUSTER

VAR047 (Count)	CLUSTER: Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	4	2	6 66.7
2.00 2 Reported Switc	1	2	3 33.3
Column Total	5 55.6	4 44.4	9 100.0

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VAR048 SW CHANGED STORE by CLUSTER

VAR048 (Count)	CLUSTER: Variety Seekers 3	Switchers 4	Row Total
1.00 1 Reported Switc	3	3	6 42.9
2.00 2 Reported Switc	2	3	5 35.7
3.00 3 Reported Switc		2	2 14.3
4.00 4 Reported Switc		1	1 7.1
Column Total	5 35.7	9 64.3	14 100.0

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Appendix VI - Summary of Switching Motivates by Cluster

		Total Reported Switches	Packaging	New Product Trial	Price	Store Location	Product Quality / Features	Vouchers	Free Gift	Variety	First Choice Out of Stock	Children's Influence	TV Advertisment	Changed Store
Loyals	Total Switches	36		2			13			1	20			
	% of Switches	100.0	0.0	5.6	0.0	0.0	36.1	0.0	0.0	2.8	55.6	0.0	0.0	0.0
Habits	Total Switches	48			6		9	4		2	27			
	% of Switches	100.0	0.0	0.0	12.5	0.0	18.8	8.3	0.0	4.2	56.3	0.0	0.0	0.0
Variety Seekers	Total Switches	199	2	6	16	1	30	2	2	51	26	50	6	7
	% of Switches	100.0	1.0	3.0	8.0	0.5	15.1	1.0	1.0	25.6	13.1	25.1	3.0	3.5
Switchers	Total Switches	162	2	4	30	2	10	8	7	28	7	39	6	19
	% of Switches	100.0	1.2	2.5	18.5	1.2	6.2	4.9	4.3	17.3	4.3	24.1	3.7	11.7

Appendix VI - ANOVA For Brand Risk By Cluster

(VARIABLE AGRISK REPRESENTS THE MEAN OF THE THREE RISK ITEMS)

- O N E W A Y -

Variable AGRISK
By Variable CLUSTER

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	292.3105	97.4368	49.6552	.0000
Within Groups	459	900.6811	1.9623		
Total	462	1192.9916			

Group	Count	Mean	Standard Deviation	Standard Error	Minimum	Maximum	95 Pct Conf Int for Mean		
Grp 1	72	3.3009	1.5696	.1850	1.0000	7.0000	2.9321	TO	3.6698
Grp 2	34	4.5294	1.4073	.2414	1.3333	7.0000	4.0384	TO	5.0205
Grp 3	180	3.3019	1.3808	.1029	1.0000	7.0000	3.0988	TO	3.5049
Grp 4	177	4.9510	1.3466	.1012	1.0000	7.0000	4.7513	TO	5.1508
Total	463	4.0223	1.6069	.0747	1.0000	7.0000	3.8756	TO	4.1691

- O N E W A Y -

Variable AGRISK
By Variable CLUSTER

Multiple Range Tests: LSD test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .9905 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE: 2.78

(*) Indicates significant differences which are shown in the lower triangle

Mean	CLUSTER	Grp 1	Grp 3	Grp 2	Grp 4
3.3009	Grp 1				
3.3019	Grp 3				
4.5294	Grp 2	*	*		
4.9510	Grp 4	*	*		

Appendix VI - ANOVA For Product Involvement By Cluster

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- O N E W A Y -

Variable VAR011 PI
By Variable CLUSTER

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	192.7990	64.2663	23.5132	.0000
Within Groups	459	1254.5401	2.7332		
Total	462	1447.3391			

Group	Count	Mean	Standard Deviation	Standard Error	Minimum	Maximum	95 Pct Conf Int for Mean		
Grp 1	72	2.8611	1.8561	.2187	1.0000	7.0000	2.4249	TO	3.2973
Grp 2	34	3.7647	1.6888	.2896	1.0000	7.0000	3.1755	TO	4.3540
Grp 3	180	3.3667	1.5957	.1189	1.0000	7.0000	3.1320	TO	3.6014
Grp 4	177	4.5367	1.6167	.1215	1.0000	7.0000	4.2969	TO	4.7765
Total	463	3.7646	1.7700	.0823	1.0000	7.0000	3.6029	TO	3.9262

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- O N E W A Y -

Variable VAR011 PI
By Variable CLUSTER

Multiple Range Tests: LSD test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= 1.1690 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE: 2.78

(*) Indicates significant differences which are shown in the lower triangle

Mean	CLUSTER	Grp 1	Grp 3	Grp 2	Grp 4
2.8611	Grp 1				
3.3667	Grp 3	*			
3.7647	Grp 2	*			
4.5367	Grp 4	*	*	*	

Appendix VII

- Output from Fishbein Analysis

- Descriptive Statistics and Correlation Matrix for Newspapers
- LISREL Model for Newspapers
- Descriptive Statistics and Correlation Matrix for Breakfast Cereals
- LISREL Model for Breakfast Cereals
- Descriptive Statistics and Correlation Matrix for Kitchen Towels
- LISREL Model for Kitchen Towels

Appendix VII - Descriptive Statistics for Fishbein Constructs for Newspapers

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Number of valid observations (listwise) = 112.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
NNAB1	1.31	1.33	-3.00	3.00	160	AB1: Bad - Good
NNAB2	1.01	1.28	-3.00	3.00	161	AB2: Beneficial - Harmful
NNAB3	.90	1.21	-3.00	3.00	161	AB3: Rewarding - Punishing
NNAB4	1.02	1.16	-2.00	3.00	160	AB4: Unpleasant - Pleasant
NNBE1	4.71	3.80	-9.00	9.00	160	BE1: Enjoy Reading
NNBE2	2.39	3.54	-9.00	9.00	162	BE2: Excuse to Relax
NNBE3	4.85	3.59	-6.00	9.00	162	BE3: Keep Up with the News
NNBE4	1.74	3.69	-9.00	9.00	162	BE4: Keep up with Sports
NNBE5	.90	3.73	-9.00	9.00	159	BE5: Unbiased
NNBEH	16.23	17.54	.00	78.00	177	Actual Behaviour
NNBI	1.53	2.18	-3.00	3.00	163	Behavioural Intention
NNNB1	1.40	4.32	-4.00	21.00	122	NBMC1: Parents
NNNB2	6.19	8.43	-21.00	21.00	144	NBMC2: Partner
NNRESP	168.64	93.77	10.00	334.00	177	Respondent
NNSN	.87	1.34	-3.00	3.00	156	Subjective Norm

Appendix VII - Correlation Matrix for Fishbein Constructs for Newspapers

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- - Correlation Coefficients - -

	NNAB1	NNAB2	NNAB3	NNAB4	NNBE1	NNBE2	NNBE3	NNBE4	NNBE5	NNBEH
NNAB1	1.0000 (160) P= .	.4690 (160) P= .000	.5060 (160) P= .000	.6502 (160) P= .000	.4601 (160) P= .000	.2349 (160) P= .003	.4358 (160) P= .000	.1461 (160) P= .065	.1640 (157) P= .040	.5018 (160) P= .000
NNAB2	.4690 (160) P= .000	1.0000 (161) P= .	.6947 (161) P= .000	.5372 (160) P= .000	.2965 (160) P= .000	.0284 (161) P= .721	.3494 (161) P= .000	.0199 (160) P= .803	.1768 (158) P= .026	.1986 (161) P= .012
NNAB3	.5060 (160) P= .000	.6947 (161) P= .000	1.0000 (161) P= .	.6115 (160) P= .000	.3242 (160) P= .000	.0721 (161) P= .364	.3034 (161) P= .000	.0337 (160) P= .672	.1901 (158) P= .017	.2532 (161) P= .001
NNAB4	.6502 (160) P= .000	.5372 (160) P= .000	.6115 (160) P= .000	1.0000 (160) P= .	.4654 (160) P= .000	.1673 (160) P= .034	.4395 (160) P= .000	.0113 (160) P= .888	.3025 (157) P= .000	.2977 (160) P= .000
NNBE1	.4601 (160) P= .000	.2965 (160) P= .000	.3242 (160) P= .000	.4654 (160) P= .000	1.0000 (160) P= .	.1185 (160) P= .136	.5198 (160) P= .000	.0706 (160) P= .375	.1388 (157) P= .083	.3820 (160) P= .000
NNBE2	.2349 (160) P= .003	.0284 (161) P= .721	.0721 (161) P= .364	.1673 (160) P= .034	.1185 (160) P= .136	1.0000 (162) P= .	.1515 (162) P= .054	.1364 (161) P= .085	-.1125 (159) P= .158	.1896 (162) P= .016
NNBE3	.4358 (160) P= .000	.3494 (161) P= .000	.3034 (161) P= .000	.4395 (160) P= .000	.5198 (160) P= .000	.1515 (162) P= .054	1.0000 (162) P= .	.1882 (161) P= .017	.2220 (159) P= .005	.3150 (162) P= .000
NNBE4	.1461 (160) P= .065	.0199 (160) P= .803	.0337 (160) P= .672	.0113 (160) P= .888	.0706 (160) P= .375	.1364 (161) P= .085	.1882 (161) P= .017	1.0000 (162) P= .	.0334 (158) P= .677	.1063 (162) P= .178
NNBE5	.1640 (157) P= .040	.1768 (158) P= .026	.1901 (158) P= .017	.3025 (157) P= .000	.1388 (157) P= .083	-.1125 (159) P= .158	.2220 (159) P= .005	.0334 (158) P= .677	1.0000 (159) P= .	.0932 (159) P= .243
NNBEH	.5018 (160) P= .000	.1986 (161) P= .012	.2532 (161) P= .001	.2977 (160) P= .000	.3820 (160) P= .000	.1896 (162) P= .016	.3150 (162) P= .000	.1063 (162) P= .178	.0932 (159) P= .243	1.0000 (177) P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Newspapers (cont.)

- - Correlation Coefficients - -

	NNAB1	NNAB2	NNAB3	NNAB4	NNBE1	NNBE2	NNBE3	NNBE4	NNBE5	NNBEH
NNBI	.5805	.3993	.4160	.4407	.4697	.1541	.4543	.1418	.2044	.5208
	(160)	(161)	(161)	(160)	(160)	(161)	(161)	(160)	(158)	(163)
	P= .000	P= .000	P= .000	P= .000	P= .000	P= .051	P= .000	P= .074	P= .010	P= .000
NNNB1	.2486	.0868	.1972	.2844	.1195	.0948	.2969	-.0444	.2751	.1033
	(121)	(121)	(121)	(121)	(121)	(122)	(122)	(122)	(121)	(122)
	P= .006	P= .344	P= .030	P= .002	P= .192	P= .299	P= .001	P= .627	P= .002	P= .257
NNNB2	.3333	.3295	.2633	.3965	.3439	.1729	.2936	.1340	.1193	.2706
	(143)	(143)	(143)	(143)	(143)	(144)	(144)	(144)	(143)	(144)
	P= .000	P= .000	P= .001	P= .000	P= .000	P= .038	P= .000	P= .109	P= .156	P= .001
NNRESP	.0133	.0307	.0162	-.0162	.0680	.0272	.0872	-.0949	.0486	.0642
	(160)	(161)	(161)	(160)	(160)	(162)	(162)	(162)	(159)	(177)
	P= .867	P= .699	P= .839	P= .839	P= .393	P= .731	P= .270	P= .230	P= .543	P= .396
NNSN	.4715	.4368	.3705	.4543	.2441	.0837	.3131	-.0078	.1849	.2841
	(156)	(156)	(156)	(156)	(156)	(156)	(156)	(156)	(154)	(156)
	P= .000	P= .000	P= .000	P= .000	P= .002	P= .299	P= .000	P= .923	P= .022	P= .000

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Newspapers (cont.)

- - Correlation Coefficients - -

	NNBI	NNNB1	NNNB2	NNRESP	NNSN
NNAB1	.5805	.2486	.3333	.0133	.4715
	(160)	(121)	(143)	(160)	(156)
	P= .000	P= .006	P= .000	P= .867	P= .000
NNAB2	.3993	.0868	.3295	.0307	.4368
	(161)	(121)	(143)	(161)	(156)
	P= .000	P= .344	P= .000	P= .699	P= .000
NNAB3	.4160	.1972	.2633	.0162	.3705
	(161)	(121)	(143)	(161)	(156)
	P= .000	P= .030	P= .001	P= .839	P= .000
NNAB4	.4407	.2844	.3965	-.0162	.4543
	(160)	(121)	(143)	(160)	(156)
	P= .000	P= .002	P= .000	P= .839	P= .000
NNBE1	.4697	.1195	.3439	.0680	.2441
	(160)	(121)	(143)	(160)	(156)
	P= .000	P= .192	P= .000	P= .393	P= .002
NNBE2	.1541	.0948	.1729	.0272	.0837
	(161)	(122)	(144)	(162)	(156)
	P= .051	P= .299	P= .038	P= .731	P= .299
NNBE3	.4543	.2969	.2936	.0872	.3131
	(161)	(122)	(144)	(162)	(156)
	P= .000	P= .001	P= .000	P= .270	P= .000
NNBE4	.1418	-.0444	.1340	-.0949	-.0078
	(160)	(122)	(144)	(162)	(156)
	P= .074	P= .627	P= .109	P= .230	P= .923
NNBE5	.2044	.2751	.1193	.0486	.1849
	(158)	(121)	(143)	(159)	(154)
	P= .010	P= .002	P= .156	P= .543	P= .022
NNBEH	.5208	.1033	.2706	.0642	.2841
	(163)	(122)	(144)	(177)	(156)
	P= .000	P= .257	P= .001	P= .396	P= .000

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

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- - Correlation Coefficients - -

	NNBI	NNNB1	NNNB2	NNRESP	NNSN
NNBI	1.0000	.1700	.4376	-.0652	.4497
	(163)	(121)	(143)	(163)	(156)
	P= .	P= .062	P= .000	P= .408	P= .000
NNNB1	.1700	1.0000	.1666	-.0600	.4105
	(121)	(122)	(115)	(122)	(120)
	P= .062	P= .	P= .075	P= .512	P= .000
NNNB2	.4376	.1666	1.0000	-.0906	.6184
	(143)	(115)	(144)	(144)	(142)
	P= .000	P= .075	P= .	P= .280	P= .000
NNRESP	-.0652	-.0600	-.0906	1.0000	-.0447
	(163)	(122)	(144)	(177)	(156)
	P= .408	P= .512	P= .280	P= .	P= .580
NNSN	.4497	.4105	.6184	-.0447	1.0000
	(156)	(120)	(142)	(156)	(156)
	P= .000	P= .000	P= .000	P= .580	P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Fishbein Model for Newspapers

```
1                          DOS - L I S R E L  7.16
0                                    BY
0                        KARL G JORESKOG AND DAG SORBOM

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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 FISHBEIN MODEL FOR NEWSPAPERS
 DA NI=14 NO=115    MA=CM
 CM=C:\mainanal\wave3\NNfish.cov
 SE
 2 3 4 5 6 1 14 7 8 9 10 11 12 13
 MO NY=7 NX=7 NK=2 NE=4 BE=SD PS=DI
 LA
 'Beh Int' 'AB1:Good/bad' 'AB2:Benef/Harm' 'AB3:Rew/Pun'
 'AB4:Unpl/Pleas' 'Subjective Norm' 'BE1:Enjoy' 'BE2:Relax'
 'BE3:News' 'BE4:Sport' 'BE5:Unbias' 'NB1:Parents' 'NB2:Partner'
 'Actual Behaviour'/
 LE
 'Ab' 'Sn' 'Intention' 'Behaviour'/
 LK
 'Sum BEs' 'Sum NBMC'/
 PA LX
 1(0 0) 4(1 0) 1(0 0) 1(0 1)
 PA LY
 1(0 0 0 0) 3(1 0 0 0) 3(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(2,1) BE(4,1) BE(4,2)
 FI TE 6 TE 7 Te 5 td 6
 VA 1 LX(1,1) LX(6,2) LY(1,1) LY(5,2) LY(6,3) LY(7,4)
 VA .17 TE 5
 VA .47 TE 6
 VA 29.8 TE 7
 VA 1.6 TD 6
 OU ALL AD=30 ME=ML RO
1FISHBEIN MODEL FOR NEWSPAPERS
0                           NUMBER OF INPUT VARIABLES 14
0                           NUMBER OF Y - VARIABLES    7
0                           NUMBER OF X - VARIABLES    7
0                           NUMBER OF ETA - VARIABLES  4
0                           NUMBER OF KSI - VARIABLES  2
0                           NUMBER OF OBSERVATIONS   115
1FISHBEIN MODEL FOR NEWSPAPERS
0         COVARIANCE MATRIX TO BE ANALYZED
0
+
```

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	1.681					
AB2:BENE	.581	1.607				
AB3:REW/	.671	.972	1.456			
AB4:UNPL	.911	.615	.727	1.332		
SUBJECTI	.726	.569	.523	.661	1.681	
BEH INT	1.649	1.072	1.122	1.027	1.311	4.707
ACTUAL B	10.249	3.141	4.688	4.186	6.073	18.941
BE1:ENJO	2.014	1.000	1.129	1.779	1.205	3.640
BE2:RELA	1.335	.245	.412	.942	.336	1.477
BE3:NEWS	1.762	.947	.694	1.526	1.076	2.941
BE4:SPOR	.644	.292	.218	-.080	-.348	1.032
BE5:UNBI	.601	.882	.762	1.211	1.207	1.095
NB1:PARE	1.012	-.034	.701	1.247	2.065	1.234
NB2:PART	2.600	2.583	2.096	3.420	5.444	7.252

0 COVARIANCE MATRIX TO BE ANALYZED

	ACTUAL B	BE1:ENJO	BE2:RELA	BE3:NEWS	BE4:SPOR	BE5:UNBI
ACTUAL B	298.483					
BE1:ENJO	22.960	14.316				
BE2:RELA	15.093	1.967	11.048			
BE3:NEWS	16.920	6.196	1.804	11.601		
BE4:SPOR	2.772	1.597	-.205	2.336	12.300	
BE5:UNBI	6.033	1.496	-.560	2.090	.048	11.458
NB1:PARE	9.874	3.218	1.051	3.551	-1.286	2.994
NB2:PART	30.960	9.017	4.868	6.417	2.389	4.307

0 COVARIANCE MATRIX TO BE ANALYZED

	NB1:PARE	NB2:PART
NB1:PARE	16.016	
NB2:PART	5.424	66.264

1FISHBEIN MODEL FOR NEWSPAPERS

0PARAMETER SPECIFICATIONS

0 LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	0	0	0	0
AB2:BENE	1	0	0	0
AB3:REW/	2	0	0	0
AB4:UNPL	3	0	0	0
SUBJECTI	0	0	0	0
BEH INT	0	0	0	0
ACTUAL B	0	0	0	0

0 LAMBDA X

	SUM BES	SUM NBMC
BE1:ENJO	0	0
BE2:RELA	4	0
BE3:NEWS	5	0
BE4:SPOR	6	0
BE5:UNBI	7	0
NB1:PARE	0	0
NB2:PART	0	8

0 BETA

	AB	SN	INTENTIO	BEHAVIOU
AB	0	0	0	0
SN	0	0	0	0
INTENTIO	9	10	0	0
BEHAVIOU	0	0	11	0

0 GAMMA

	SUM BES	SUM NBMC
AB	12	0
SN	0	13
INTENTIO	0	0
BEHAVIOU	0	0

0 PHI

	SUM BES	SUM NBMC
SUM BES	14	
SUM NBMC	15	16

0 PSI

AB	SN	INTENTIO	BEHAVIOU
17	18	19	20

0 THETA EPS

AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
21	22	23	24	0	0

0 THETA EPS

ACTUAL B
0

0 THETA DELTA

BE1:ENJO	BE2:RELA	BE3:NEWS	BE4:SPOR	BE5:UNBI	NB1:PARE
25	26	27	28	29	0

```
0        THETA DELTA
0           NB2:PART
+          --------
                 30
1FISHBEIN MODEL FOR NEWSPAPERS
0INITIAL ESTIMATES (TSLS)
0        LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
 AB1:GOOD      1.000        .000        .000        .000
 AB2:BENE       .694        .000        .000        .000
 AB3:REW/       .743        .000        .000        .000
 AB4:UNPL       .925        .000        .000        .000
 SUBJECTI       .000       1.000        .000        .000
  BEH INT       .000        .000       1.000        .000
 ACTUAL B       .000        .000        .000       1.000
0        LAMBDA X
0            SUM BES     SUM NBMC
+           --------    --------
 BE1:ENJO      1.000        .000
 BE2:RELA       .395        .000
 BE3:NEWS       .856        .000
 BE4:SPOR       .245        .000
 BE5:UNBI       .436        .000
 NB1:PARE       .000       1.000
 NB2:PART       .000       1.131
0        BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
       AB       .000        .000        .000        .000
       SN       .000        .000        .000        .000
 INTENTIO      1.754        .190        .000        .000
 BEHAVIOU       .000        .000       5.645        .000
0        GAMMA
0            SUM BES    SUM NBMC
+           --------    --------
       AB       .310        .000
       SN       .000        .400
 INTENTIO       .000        .000
 BEHAVIOU       .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+           --------    --------    --------    --------    --------    --------
       AB      1.033
       SN       .739       1.511
 INTENTIO      1.951       1.584       6.113
 BEHAVIOU     11.015       8.941      34.506     384.630
  SUM BES      1.855       2.383       3.707      20.922       5.980
 SUM NBMC      1.848       3.607       3.927      22.164       5.956       9.016
0        PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
                .457        .068       2.390     189.859
0        THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .649       1.110        .885        .448        .170        .470
0        THETA EPS
0           ACTUAL B
+           --------
              29.800
0        THETA DELTA
0           BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+           --------    --------    --------    --------    --------    --------
               8.336      10.113       7.223      11.940      10.322       1.600
0        THETA DELTA
0           NB2:PART
+           --------
              54.729
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .614        .309        .392        .663        .899        .929
```

```
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           ACTUAL B
+         --------
              .928
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           BE1:ENJO   BE2:RELA   BE3:NEWS   BE4:SPOR   BE5:UNBI   NB1:PARE
+         --------   --------   --------   --------   --------   --------
              .418       .085       .377       .029       .099       .849
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           NB2:PART
+         --------
              .174
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .913
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 AB         SN   INTENTIO   BEHAVIOU
+         --------   --------   --------   --------
              .557       .955       .609       .506
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .969
1          BEHAVIOR UNDER MINIMIZATION ITERATIONS

           ITER  TRY    ABSCISSA          SLOPE             FUNCTION
0             1    0    .00000000D+00    -.63987928D+01    .21431242D+01
                   1    .10000000D+01     .16803700D+00    .97490486D+00
0             2    0    .00000000D+00    -.28279327D+00    .97490486D+00
                   1    .10000000D+01     .15777691D-01    .85860497D+00
0             3    0    .00000000D+00    -.36698540D-01    .85860497D+00
                   1    .10000000D+01    -.11082849D-01    .83479581D+00
                   2    .14326586D+01    -.21492898D-03    .83235348D+00
0             4    0    .00000000D+00    -.13870280D-01    .83235348D+00
                   1    .14326586D+01    -.39329209D-02    .81965783D+00
                   2    .19996636D+01    -.11558391D-03    .81851259D+00
0             5    0    .00000000D+00    -.60539150D-02    .81851259D+00
                   1    .19996636D+01    -.16643404D-02    .81080686D+00
                   2    .27578512D+01     .36500508D-05    .81017624D+00
0             6    0    .00000000D+00    -.21126478D-02    .81017624D+00
                   1    .27578512D+01    -.10005334D-03    .80714557D+00
0             7    0    .00000000D+00    -.92376936D-03    .80714557D+00
                   1    .27578512D+01    -.40162298D-03    .80531476D+00
                   2    .48791269D+01     .11436816D-04    .80489882D+00
0             8    0    .00000000D+00    -.58268900D-03    .80489882D+00
                   1    .48791269D+01    -.12614482D-03    .80316024D+00
                   2    .62272475D+01     .42054594D-05    .80307783D+00
0             9    0    .00000000D+00    -.36087880D-03    .80307783D+00
                   1    .62272475D+01     .16556763D-03    .80244254D+00
                   2    .42687755D+01    -.57246945D-05    .80228693D+00
0            10    0    .00000000D+00    -.18656399D-03    .80228693D+00
                   1    .42687755D+01     .56509228D-04    .80200758D+00
                   2    .32763782D+01    -.45051998D-06    .80197979D+00
0            11    0    .00000000D+00    -.79367454D-04    .80197979D+00
                   1    .32763782D+01     .92938703D-05    .80186452D+00
                   2    .29329338D+01    -.83382578D-07    .80186294D+00
0            12    0    .00000000D+00    -.27847874D-04    .80186294D+00
                   1    .29329338D+01     .51419910D-05    .80182958D+00
                   2    .24757898D+01    -.15997884D-07    .80182841D+00
0            13    0    .00000000D+00    -.48935655D-05    .80182841D+00
                   1    .24757898D+01     .48038309D-05    .80182829D+00
                   2    .12493497D+01    -.38881702D-08    .80182535D+00
0            14    0    .00000000D+00    -.33049833D-06    .80182535D+00
                   1    .12493497D+01    -.18433303D-08    .80182514D+00
0            15    0    .00000000D+00    -.37448389D-07    .80182514D+00
                   1    .12493497D+01    -.97676090D-08    .80182511D+00
                   2    .16902029D+01     .30644008D-12    .80182511D+00
0            16    0    .00000000D+00    -.25896249D-08    .80182511D+00
                   1    .16902029D+01     .10963871D-08    .80182511D+00
                   2    .11874599D+01    -.27988926D-14    .80182511D+00
0            17    0    .00000000D+00    -.11602211D-09    .80182511D+00
                   1    .11874599D+01     .27037547D-10    .80182511D+00
                   2    .96303604D+00    -.85691896D-16    .80182511D+00
0            18    0    .00000000D+00    -.37527678D-11    .80182511D+00
                   1    .96303604D+00    -.74984840D-12    .80182511D+00
                   2    .12035124D+01     .25668228D-18    .80182511D+00
```

Appendix VII - Fishbein Model for Newspapers (cont.)

```
1FISHBEIN MODEL FOR NEWSPAPERS
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0        LAMBDA Y
0              AB          SN    INTENTIO    BEHAVIOU
+
 AB1:GOOD   1.000        .000        .000        .000
 AB2:BENE    .727        .000        .000        .000
 AB3:REW/    .787        .000        .000        .000
 AB4:UNPL    .874        .000        .000        .000
 SUBJECTI    .000       1.000        .000        .000
  BEH INT    .000        .000       1.000        .000
 ACTUAL B    .000        .000        .000       1.000
0        LAMBDA X
0         SUM BES    SUM NBMC
+
 BE1:ENJO   1.000        .000
 BE2:RELA    .352        .000
 BE3:NEWS    .905        .000
 BE4:SPOR    .229        .000
 BE5:UNBI    .367        .000
 NB1:PARE    .000       1.000
 NB2:PART    .000        .461
0        BETA
0              AB          SN    INTENTIO    BEHAVIOU
+
       AB    .000        .000        .000        .000
       SN    .000        .000        .000        .000
 INTENTIO   1.245        .362        .000        .000
 BEHAVIOU    .000        .000       4.516        .000
0        GAMMA
0         SUM BES    SUM NBMC
+
       AB    .296        .000
       SN    .000        .150
 INTENTIO    .000        .000
 BEHAVIOU    .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0              AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+
       AB    .995
       SN    .166       1.512
 INTENTIO   1.299        .754       3.888
 BEHAVIOU   5.868       3.405      17.557     261.626
  SUM BES   1.927        .560       2.603      11.754       6.513
 SUM NBMC   1.104       2.157       2.156       9.735       3.730      14.368
0        PSI
0              AB          SN    INTENTIO    BEHAVIOU
+
             .425       1.188       1.997     182.336
0        THETA EPS
0        AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+
             .686       1.081        .839        .571        .170        .470
0        THETA EPS
0        ACTUAL B
+
           29.800
0        THETA DELTA
0        BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+
            7.802      10.242       6.272      11.960      10.579       1.600
0        THETA DELTA
0        NB2:PART
+
           63.212
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0        AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+
             .592        .328        .424        .571        .899        .892
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0        ACTUAL B
+
             .898
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
```

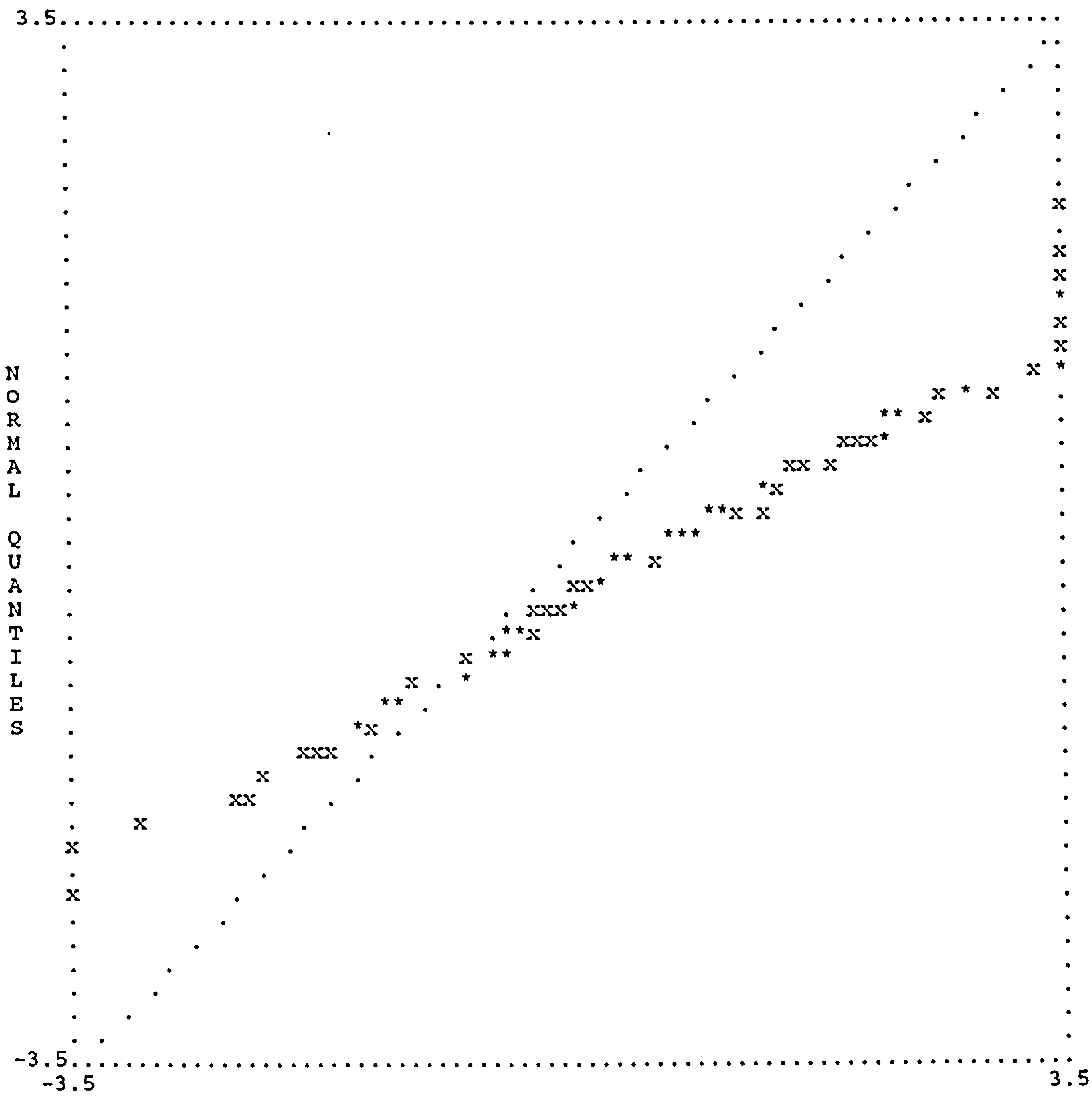
```
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           BE1:ENJO   BE2:RELA   BE3:NEWS   BE4:SPOR   BE5:UNBI   NB1:PARE
+           --------   --------   --------   --------   --------   --------
                .455       .073       .459       .028       .077       .900
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           NB2:PART
+           --------
                .046
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS    .962
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 AB         SN   INTENTIO   BEHAVIOU
+           --------   --------   --------   --------
                .573       .214       .486       .303
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .658


0         CHI-SQUARE WITH  75 DEGREES OF FREEDOM =    182.82 (P = .000)
0                       GOODNESS OF FIT INDEX = .817
              ADJUSTED GOODNESS OF FIT INDEX = .744
                   ROOT MEAN SQUARE RESIDUAL =     3.499
1FISHBEIN MODEL FOR NEWSPAPERS
0        FITTED COVARIANCE MATRIX
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+           --------   --------   --------   --------   --------   --------
 AB1:GOOD      1.681
 AB2:BENE       .724      1.607
 AB3:REW/       .783       .570      1.456
 AB4:UNPL       .870       .633       .685      1.332
 SUBJECTI       .166       .120       .130       .145      1.682
  BEH INT      1.299       .945      1.023      1.136       .754      4.358
 ACTUAL B      5.868      4.268      4.619      5.129      3.405     17.557
 BE1:ENJO      1.927      1.402      1.517      1.685       .560      2.603
 BE2:RELA       .678       .493       .534       .593       .197       .916
 BE3:NEWS      1.743      1.268      1.372      1.524       .506      2.354
 BE4:SPOR       .440       .320       .347       .385       .128       .595
 BE5:UNBI       .708       .515       .557       .619       .206       .956
 NB1:PARE      1.104       .803       .869       .965      2.157      2.156
 NB2:PART       .509       .370       .400       .445       .994       .993
0        FITTED COVARIANCE MATRIX
0           ACTUAL B   BE1:ENJO   BE2:RELA   BE3:NEWS   BE4:SPOR   BE5:UNBI
+           --------   --------   --------   --------   --------   --------
 ACTUAL B    291.426
 BE1:ENJO     11.754     14.316
 BE2:RELA      4.135      2.292     11.048
 BE3:NEWS     10.632      5.891      2.073     11.601
 BE4:SPOR      2.686      1.489       .524      1.346     12.300
 BE5:UNBI      4.317      2.392       .842      2.164       .547     11.458
 NB1:PARE      9.735      3.730      1.312      3.374       .852      1.370
 NB2:PART      4.487      1.719       .605      1.555       .393       .631
0        FITTED COVARIANCE MATRIX
0           NB1:PARE   NB2:PART
+           --------   --------
 NB1:PARE     15.968
 NB2:PART      6.622     66.264
0        FITTED RESIDUALS
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+           --------   --------   --------   --------   --------   --------
 AB1:GOOD       .000
 AB2:BENE      -.143       .000
 AB3:REW/      -.113       .402       .000
 AB4:UNPL       .041      -.018       .042       .000
 SUBJECTI       .560       .448       .393       .516      -.001
  BEH INT       .349       .127       .099      -.109       .557       .350
 ACTUAL B      4.382     -1.127       .069      -.942      2.668      1.384
 BE1:ENJO       .087      -.402      -.388       .094       .645      1.037
 BE2:RELA       .657      -.248      -.122       .349       .139       .562
 BE3:NEWS       .018      -.321      -.678       .002       .569       .587
 BE4:SPOR       .203      -.029      -.129      -.465      -.476       .437
 BE5:UNBI      -.107       .367       .205       .592      1.001       .139
 NB1:PARE      -.091      -.837      -.168       .282      -.092      -.921
 NB2:PART      2.092      2.213      1.696      2.975      4.450      6.259
```

```
0         FITTED RESIDUALS
0            ACTUAL B    BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI
+          --------    --------    --------    --------    --------    --------
 ACTUAL B     7.057
 BE1:ENJO    11.206        .000
 BE2:RELA    10.958       -.325        .000
 BE3:NEWS     6.288        .304       -.269        .000
 BE4:SPOR      .085        .109       -.729        .990        .000
 BE5:UNBI     1.716       -.897      -1.401       -.074       -.499        .000
 NB1:PARE      .139       -.513       -.261        .177      -2.138       1.624
 NB2:PART    26.473       7.298       4.263       4.862       1.996       3.676
0         FITTED RESIDUALS
0            NB1:PARE    NB2:PART
+          --------    --------
 NB1:PARE      .048
 NB2:PART    -1.198        .000
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =   -2.138
   MEDIAN FITTED RESIDUAL =     .094
  LARGEST FITTED RESIDUAL =   26.473
-STEMLEAF PLOT
 - 2|1
 - 0|4219998775555443333221111111111000000000000000000
   0|1111111111222333334444456666666670004677
   2|012707
   4|3459
   6|3313
   8|
  10|02
  12|
  14|
  16|
  18|
  20|
  22|
  24|
  26|5
0         STANDARDIZED RESIDUALS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+          --------    --------    --------    --------    --------    --------
 AB1:GOOD      .000
 AB2:BENE    -2.355        .000
 AB3:REW/    -2.269       5.269        .000
 AB4:UNPL     1.197       -.315        .900        .000
 SUBJECTI     3.885       3.066       2.861       4.010      -1.324
  BEH INT     3.507        .900        .819      -1.178       4.668       4.657
 ACTUAL B     2.871       -.673        .045       -.687       1.543       3.269
 BE1:ENJO      .404      -1.366      -1.531        .474       1.579       2.269
 BE2:RELA     2.325       -.752       -.412       1.365        .356       1.089
 BE3:NEWS      .095      -1.215      -2.978        .010       1.551       1.431
 BE4:SPOR      .660       -.081       -.402      -1.668      -1.147        .783
 BE5:UNBI     -.371       1.096        .680       2.279       2.521        .264
 NB1:PARE     -.282      -2.183       -.490        .961      -4.233      -1.736
 NB2:PART     2.208       2.346       1.901       3.523       5.209       4.158
0         STANDARDIZED RESIDUALS
0            ACTUAL B    BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI
+          --------    --------    --------    --------    --------    --------
 ACTUAL B     4.620
 BE1:ENJO     2.188        .000
 BE2:RELA     2.208       -.477        .000
 BE3:NEWS     1.365       1.027       -.442        .000
 BE4:SPOR      .016        .144       -.717       1.469        .000
 BE5:UNBI      .340      -1.298      -1.481       -.121       -.483        .000
 NB1:PARE      .025       -.672       -.245        .261      -1.835       1.499
 NB2:PART     2.071       2.678       1.704       1.983        .752       1.443
0         STANDARDIZED RESIDUALS
0            NB1:PARE    NB2:PART
+          --------    --------
 NB1:PARE     6.824
 NB2:PART    -6.478        .000
```

```
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =   -6.478
   MEDIAN STANDARDIZED RESIDUAL =     .340
  LARGEST STANDARDIZED RESIDUAL =    6.824
-STEMLEAF PLOT
 - 6|5
 - 5|
 - 4|2
 - 3|0
 - 2|432
 - 1|87755433221
 - 0|877775554444332110000000000000
   0|113334457788899
   1|0011244445556679
   2|0122233335799
   3|13559
   4|02677
   5|23
   6|8
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR BE3:NEWS AND AB3:REW/ =  -2.978
0RESIDUAL FOR NB1:PARE AND SUBJECTI =  -4.233
0RESIDUAL FOR NB2:PART AND NB1:PARE =  -6.478
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR AB3:REW/ AND AB2:BENE =   5.269
0RESIDUAL FOR SUBJECTI AND AB1:GOOD =   3.885
0RESIDUAL FOR SUBJECTI AND AB2:BENE =   3.066
0RESIDUAL FOR SUBJECTI AND AB3:REW/ =   2.861
0RESIDUAL FOR SUBJECTI AND AB4:UNPL =   4.010
0RESIDUAL FOR  BEH INT AND AB1:GOOD =   3.507
0RESIDUAL FOR  BEH INT AND SUBJECTI =   4.668
0RESIDUAL FOR  BEH INT AND  BEH INT =   4.657
0RESIDUAL FOR ACTUAL B AND AB1:GOOD =   2.871
0RESIDUAL FOR ACTUAL B AND  BEH INT =   3.269
0RESIDUAL FOR ACTUAL B AND ACTUAL B =   4.620
0RESIDUAL FOR NB1:PARE AND NB1:PARE =   6.824
0RESIDUAL FOR NB2:PART AND AB4:UNPL =   3.523
0RESIDUAL FOR NB2:PART AND SUBJECTI =   5.209
0RESIDUAL FOR NB2:PART AND  BEH INT =   4.158
0RESIDUAL FOR NB2:PART AND BE1:ENJO =   2.678
```

1FISHBEIN MODEL FOR NEWSPAPERS
- QPLOT OF STANDARDIZED RESIDUALS



1FISHBEIN MODEL FOR NEWSPAPERS
-STANDARD ERRORS
0 LAMBDA Y

0	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.127	.000	.000	.000
AB3:REW/	.121	.000	.000	.000
AB4:UNPL	.116	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.000	.000	.000	.000
ACTUAL B	.000	.000	.000	.000

0 LAMBDA X

0	SUM BES	SUM NBMC
BE1:ENJO	.000	.000
BE2:RELA	.145	.000
BE3:NEWS	.176	.000
BE4:SPOR	.151	.000
BE5:UNBI	.148	.000
NB1:PARE	.000	.000
NB2:PART	.000	.207

```
0         BETA
0                   AB           SN    INTENTIO    BEHAVIOU
+              ________     ________    ________    ________
       AB        .000         .000        .000        .000
       SN        .000         .000        .000        .000
 INTENTIO        .203         .135        .000        .000
 BEHAVIOU        .000         .000        .747        .000
0         GAMMA
0              SUM BES      SUM NBMC
+              ________     ________
       AB        .061         .000
       SN        .000         .031
 INTENTIO        .000         .000
 BEHAVIOU        .000         .000
0         PHI
0              SUM BES      SUM NBMC
+              ________     ________
  SUM BES       1.914
 SUM NBMC       1.243        2.115
0         PSI
0                   AB           SN    INTENTIO    BEHAVIOU
+              ________     ________    ________    ________
                 .143         .185        .373      29.269
0         THETA EPS
0             AB1:GOOD     AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+             ________     ________    ________    ________    ________    ________
                 .127         .158        .130        .103        .000        .000
0         THETA EPS
0             ACTUAL B
+             ________
                 .000
0         THETA DELTA
0             BE1:ENJO     BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+             ________     ________    ________    ________    ________    ________
                1.484        1.394       1.203       1.600       1.443        .000
0         THETA DELTA
0             NB2:PART
+             ________
                8.416
1FISHBEIN MODEL FOR NEWSPAPERS
0         CORRELATIONS OF ESTIMATES
0                LY 2,1       LY 3,1      LY 4,1      LX 2,1      LX 3,1      LX 4,1
+              ________     ________    ________    ________    ________    ________
   LY 2,1       1.000
   LY 3,1        .316        1.000
   LY 4,1        .368         .420       1.000
   LX 2,1        .000         .000        .000       1.000
   LX 3,1        .000         .000        .000        .236       1.000
   LX 4,1        .000         .000        .000        .068        .148       1.000
   LX 5,1        .000         .000        .000        .111        .242        .069
   LX 7,2        .000         .000        .000        .000        .000        .000
   BE 3,1        .298         .340        .396        .000        .000        .000
   BE 3,2       -.002        -.002       -.001       -.002        .000       -.001
   BE 4,3        .000         .000        .000        .000        .000        .000
   GA 1,1       -.225        -.259       -.308        .222        .469        .139
   GA 2,2       -.000        -.000        .000        .000        .000        .000
   PH 1,1        .000         .000        .000       -.297       -.664       -.185
   PH 2,1        .000         .000        .000       -.127       -.293       -.080
   PH 2,2        .000         .000        .000        .000        .000        .000
   PS 1,1       -.291        -.332       -.384       -.020        .002       -.013
   PS 2,2        .000         .000        .000        .000        .000        .000
   PS 3,3       -.007        -.007       -.002        .000        .000        .000
   PS 4,4        .000         .000        .000        .000        .000        .000
   TE 1,1        .207         .240        .296        .000        .000        .000
   TE 2,2       -.165        -.005       -.001        .000        .000        .000
   TE 3,3       -.009        -.204       -.002        .000        .000        .000
   TE 4,4       -.020        -.019       -.289        .000        .000        .000
   TD 1,1        .000         .000        .000        .159        .382        .099
   TD 2,2        .000         .000        .000       -.114        .000       -.001
   TD 3,3        .000         .000        .000       -.021       -.384       -.013
   TD 4,4        .000         .000        .000       -.000        .000       -.070
   TD 5,5        .000         .000        .000       -.001        .000       -.001
   TD 7,7        .000         .000        .000        .000        .000        .000
```

0 CORRELATIONS OF ESTIMATES

	LX 5,1	LX 7,2	BE 3,1	BE 3,2	BE 4,3	GA 1,1
LX 5,1	1.000					
LX 7,2	.000	1.000				
BE 3,1	.000	.000	1.000			
BE 3,2	-.002	.000	-.139	1.000		
BE 4,3	.000	.000	-.044	-.019	1.000	
GA 1,1	.227	.000	-.240	-.022	.000	1.000
GA 2,2	.000	.012	-.007	-.015	.000	-.001
PH 1,1	-.304	.000	-.001	.008	.000	-.625
PH 2,1	-.130	-.007	.002	-.022	.000	-.276
PH 2,2	.000	-.033	.000	.000	.000	.000
PS 1,1	-.020	.000	-.318	.040	.000	-.157
PS 2,2	.000	.000	.006	-.037	.000	.001
PS 3,3	.000	.000	-.181	-.005	-.076	.022
PS 4,4	.000	.000	.004	.002	-.089	.000
TE 1,1	.000	.000	.226	-.014	.000	-.125
TE 2,2	.000	.000	-.005	-.003	.000	.016
TE 3,3	.000	.000	-.008	-.005	.000	.026
TE 4,4	.000	.000	-.018	-.012	.000	.060
TD 1,1	.163	.000	.001	-.010	.000	.362
TD 2,2	-.001	.000	.000	-.001	.000	.000
TD 3,3	-.021	.000	.001	-.010	.000	.008
TD 4,4	-.000	.000	.000	-.000	.000	.000
TD 5,5	-.117	.000	.000	-.001	.000	.000
TD 7,7	.000	-.032	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	GA 2,2	PH 1,1	PH 2,1	PH 2,2	PS 1,1	PS 2,2
GA 2,2	1.000					
PH 1,1	.000	1.000				
PH 2,1	-.017	.513	1.000			
PH 2,2	-.072	.060	.398	1.000		
PS 1,1	.002	.103	.066	.000	1.000	
PS 2,2	-.070	-.000	.002	.002	-.002	1.000
PS 3,3	.002	.000	.000	.000	.003	-.001
PS 4,4	.000	.000	.000	.000	.000	.000
TE 1,1	-.001	-.000	.000	.000	-.229	.001
TE 2,2	-.000	.000	.000	.000	.003	.000
TE 3,3	-.000	.000	.000	.000	.004	.000
TE 4,4	-.001	-.000	.000	.000	.009	.000
TD 1,1	-.000	-.400	-.154	.000	-.132	.000
TD 2,2	.000	.006	.004	.000	-.008	.000
TD 3,3	-.000	.106	.069	.000	-.137	.000
TD 4,4	.000	.002	.001	.000	-.003	.000
TD 5,5	.000	.006	.004	.000	-.008	.000
TD 7,7	.000	.000	.000	.000	.000	-.000

0 CORRELATIONS OF ESTIMATES

	PS 3,3	PS 4,4	TE 1,1	TE 2,2	TE 3,3	TE 4,4
PS 3,3	1.000					
PS 4,4	-.000	1.000				
TE 1,1	-.044	.000	1.000			
TE 2,2	-.010	.000	-.033	1.000		
TE 3,3	-.017	.000	-.053	-.012	1.000	
TE 4,4	-.038	.000	-.121	-.028	-.046	1.000
TD 1,1	.000	.000	.000	.000	.000	.000
TD 2,2	.000	.000	.000	.000	.000	.000
TD 3,3	.000	.000	.000	.000	.000	.000
TD 4,4	.000	.000	.000	.000	.000	.000
TD 5,5	.000	.000	.000	.000	.000	.000
TD 7,7	.000	.000	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TD 1,1	TD 2,2	TD 3,3	TD 4,4	TD 5,5	TD 7,7
TD 1,1	1.000					
TD 2,2	-.008	1.000				
TD 3,3	-.136	-.008	1.000			
TD 4,4	-.003	-.000	-.003	1.000		
TD 5,5	-.008	-.000	-.009	-.000	1.000	
TD 7,7	.000	.000	.000	.000	.000	1.000

```
1FISHBEIN MODEL FOR NEWSPAPERS
-T-VALUES
0         LAMBDA Y
0                  AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
 AB1:GOOD        .000        .000        .000        .000
 AB2:BENE       5.705        .000        .000        .000
 AB3:REW/       6.506        .000        .000        .000
 AB4:UNPL       7.506        .000        .000        .000
 SUBJECTI        .000        .000        .000        .000
  BEH INT        .000        .000        .000        .000
 ACTUAL B        .000        .000        .000        .000
0         LAMBDA X
0             SUM BES    SUM NBMC
+            --------    --------
 BE1:ENJO        .000        .000
 BE2:RELA       2.424        .000
 BE3:NEWS       5.152        .000
 BE4:SPOR       1.517        .000
 BE5:UNBI       2.482        .000
 NB1:PARE        .000        .000
 NB2:PART        .000       2.223
0         BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
       AB        .000        .000        .000        .000
       SN        .000        .000        .000        .000
 INTENTIO       6.130       2.686        .000        .000
 BEHAVIOU        .000        .000       6.044        .000
0         GAMMA
0             SUM BES    SUM NBMC
+            --------    --------
       AB       4.814        .000
       SN        .000       4.880
 INTENTIO        .000        .000
 BEHAVIOU        .000        .000
0         PHI
0             SUM BES    SUM NBMC
+            --------    --------
  SUM BES       3.404
 SUM NBMC       3.000       6.793
0         PSI
0                  AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
                2.974       6.438       5.356       6.230
0         THETA EPS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------    --------    --------    --------    --------    --------
                5.396       6.840       6.471       5.573        .000        .000
0         THETA EPS
0            ACTUAL B
+            --------
                 .000
0         THETA DELTA
0            BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+            --------    --------    --------    --------    --------    --------
                5.257       7.345       5.215       7.476       7.334        .000
0         THETA DELTA
0            NB2:PART
+            --------
                7.511
1FISHBEIN MODEL FOR NEWSPAPERS
-TOTAL AND INDIRECT EFFECTS
0         TOTAL EFFECTS OF KSI ON  ETA
0             SUM BES    SUM NBMC
+            --------    --------
       AB        .296        .000
       SN        .000        .150
 INTENTIO        .368        .054
 BEHAVIOU       1.664        .246
```

Appendix VII - Fishbein Model for Newspapers (cont.)

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON ETA

	SUM BES	SUM NBMC
AB	.061	.000
SN	.000	.031
INTENTIO	.085	.023
BEHAVIOU	.466	.111

0 INDIRECT EFFECTS OF KSI ON ETA

	SUM BES	SUM NBMC
AB	.000	.000
SN	.000	.000
INTENTIO	.368	.054
BEHAVIOU	1.664	.246

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON ETA

	SUM BES	SUM NBMC
AB	.000	.000
SN	.000	.000
INTENTIO	.085	.023
BEHAVIOU	.466	.111

0 TOTAL EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	1.245	.362	.000	.000
BEHAVIOU	5.624	1.636	4.516	.000

0 LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS 20.395

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.203	.135	.000	.000
BEHAVIOU	1.278	.662	.747	.000

0 INDIRECT EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.000	.000	.000	.000
BEHAVIOU	5.624	1.636	.000	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.000	.000	.000	.000
BEHAVIOU	1.278	.662	.000	.000

0 TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	1.000	.000	.000	.000
AB2:BENE	.727	.000	.000	.000
AB3:REW/	.787	.000	.000	.000
AB4:UNPL	.874	.000	.000	.000
SUBJECTI	.000	1.000	.000	.000
BEH INT	1.245	.362	1.000	.000
ACTUAL B	5.624	1.636	4.516	1.000

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.127	.000	.000	.000
AB3:REW/	.121	.000	.000	.000
AB4:UNPL	.116	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.203	.135	.000	.000
ACTUAL B	1.278	.662	.747	.000

0 INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	1.245	.362	.000	.000
ACTUAL B	5.624	1.636	4.516	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.203	.135	.000	.000
ACTUAL B	1.278	.662	.747	.000

0 TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.296	.000
AB2:BENE	.215	.000
AB3:REW/	.233	.000
AB4:UNPL	.259	.000
SUBJECTI	.000	.150
BEH INT	.368	.054
ACTUAL B	1.664	.246

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.061	.000
AB2:BENE	.052	.000
AB3:REW/	.052	.000
AB4:UNPL	.054	.000
SUBJECTI	.000	.031
BEH INT	.085	.023
ACTUAL B	.466	.111

1FISHBEIN MODEL FOR NEWSPAPERS
-COVARIANCES

0 Y - ETA

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB	.995	.724	.783	.870	.166	1.299
SN	.166	.120	.130	.145	1.512	.754
INTENTIO	1.299	.945	1.023	1.136	.754	3.888
BEHAVIOU	5.868	4.268	4.619	5.129	3.405	17.557

0 Y - ETA

	ACTUAL B
AB	5.868
SN	3.405
INTENTIO	17.557
BEHAVIOU	261.626

0 Y - KSI

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
SUM BES	1.927	1.402	1.517	1.685	.560	2.603
SUM NBMC	1.104	.803	.869	.965	2.157	2.156

0 Y - KSI

	ACTUAL B
SUM BES	11.754
SUM NBMC	9.735

0 X - ETA

	BE1:ENJO	BE2:RELA	BE3:NEWS	BE4:SPOR	BE5:UNBI	NB1:PARE
AB	1.927	.678	1.743	.440	.708	1.104
SN	.560	.197	.506	.128	.206	2.157
INTENTIO	2.603	.916	2.354	.595	.956	2.156
BEHAVIOU	11.754	4.135	10.632	2.686	4.317	9.735

0 X - ETA

	NB2:PART
AB	.509
SN	.994
INTENTIO	.993
BEHAVIOU	4.487

0 X - KSI

	BE1:ENJO	BE2:RELA	BE3:NEWS	BE4:SPOR	BE5:UNBI	NB1:PARE
SUM BES	6.513	2.292	5.891	1.489	2.392	3.730
SUM NBMC	3.730	1.312	3.374	.852	1.370	14.368

0 X - KSI

	NB2:PART
SUM BES	1.719
SUM NBMC	6.622

1FISHBEIN MODEL FOR NEWSPAPERS
-FIRST ORDER DERIVATIVES

0 LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	-.162	-.293	-4.191
AB2:BENE	.000	-.093	-.014	1.573
AB3:REW/	.000	-.047	.011	.892
AB4:UNPL	.000	-.204	.321	3.180
SUBJECTI	-.327	.000	-.462	-1.978
BEH INT	.012	.004	.000	.327
ACTUAL B	-.003	-.001	.000	.000

0 LAMBDA X

	SUM BES	SUM NBMC
BE1:ENJO	.000	.034
BE2:RELA	.000	.016
BE3:NEWS	.000	-.046
BE4:SPOR	.000	.158
BE5:UNBI	.000	-.150
NB1:PARE	.122	.000
NB2:PART	-.085	.000

0 BETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	-.445	-.014	.842
SN	-.327	.000	-.462	-1.859
INTENTIO	.000	.000	.000	.327
BEHAVIOU	-.003	-.001	.000	.000

0 GAMMA

	SUM BES	SUM NBMC
AB	.000	.072
SN	-.553	.000
INTENTIO	-.106	.221
BEHAVIOU	-.016	-.016

0 PHI

	SUM BES	SUM NBMC
SUM BES	.000	
SUM NBMC	.000	.000

0 PSI

AB	SN	INTENTIO	BEHAVIOU
.000	.000	.000	.000

0 THETA EPS

AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
.000	.000	.000	.000	.010	-.008

0 THETA EPS

ACTUAL B
.000

0 THETA DELTA

BE1:ENJO	BE2:RELA	BE3:NEWS	BE4:SPOR	BE5:UNBI	NB1:PARE
.000	.000	.000	.000	.000	-.009

Appendix VII - Fishbein Model for Newspapers (cont.)

```
0        THETA DELTA
0           NB2:PART
+         --------
              .000
1FISHBEIN MODEL FOR NEWSPAPERS
-FACTOR SCORES REGRESSIONS
0        ETA
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI    BEH INT
+         --------    --------    --------    --------    --------    --------
      AB      .232        .107        .149        .243       -.024        .077
      SN     -.006       -.003       -.004       -.006        .871        .019
 INTENTIO     .053        .024        .034        .055        .052        .800
 BEHAVIOU     .033        .015        .022        .035        .033        .507
0        ETA
0           ACTUAL B    BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI
+         --------    --------    --------    --------    --------    --------
      AB      .001        .021        .006        .024        .003        .006
      SN      .000       -.000        .000       -.000        .000        .000
 INTENTIO     .008        .005        .001        .005        .001        .001
 BEHAVIOU     .865        .003        .001        .003        .000        .001
0        ETA
0           NB1:PARE    NB2:PART
+         --------    --------
      AB      .006        .000
      SN      .016        .000
 INTENTIO     .002        .000
 BEHAVIOU     .002        .000
0        KSI
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI    BEH INT
+         --------    --------    --------    --------    --------    --------
  SUM BES     .241        .111        .155        .252       -.015        .080
 SUM NBMC     .014        .007        .009        .015        .150        .008
0        KSI
0           ACTUAL B    BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI
+         --------    --------    --------    --------    --------    --------
  SUM BES     .001        .213        .057        .240        .032        .058
 SUM NBMC     .000        .014        .004        .015        .002        .004
0        KSI
0           NB1:PARE    NB2:PART
+         --------    --------
  SUM BES     .066        .001
 SUM NBMC     .864        .010
1FISHBEIN MODEL FOR NEWSPAPERS
-STANDARDIZED SOLUTION
0        LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+         --------    --------    --------    --------
 AB1:GOOD     .998        .000        .000        .000
 AB2:BENE     .726        .000        .000        .000
 AB3:REW/     .785        .000        .000        .000
 AB4:UNPL     .872        .000        .000        .000
 SUBJECTI     .000       1.230        .000        .000
  BEH INT     .000        .000       1.972        .000
 ACTUAL B     .000        .000        .000      16.175
0        LAMBDA X
0            SUM BES    SUM NBMC
+         --------    --------
 BE1:ENJO    2.552        .000
 BE2:RELA     .898        .000
 BE3:NEWS    2.308        .000
 BE4:SPOR     .583        .000
 BE5:UNBI     .937        .000
 NB1:PARE     .000       3.790
 NB2:PART     .000       1.747
0        BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+         --------    --------    --------    --------
      AB      .000        .000        .000        .000
      SN      .000        .000        .000        .000
 INTENTIO     .630        .226        .000        .000
 BEHAVIOU     .000        .000        .551        .000
```

```
0         GAMMA
0              SUM BES    SUM NBMC
+            --------   --------
       AB       .757       .000
       SN       .000       .463
 INTENTIO       .000       .000
 BEHAVIOU       .000       .000
0         CORRELATION MATRIX OF ETA AND KSI
0                 AB         SN   INTENTIO   BEHAVIOU    SUM BES   SUM NBMC
+            --------   --------   --------   --------   --------   --------
       AB      1.000
       SN       .135      1.000
 INTENTIO       .661       .311      1.000
 BEHAVIOU       .364       .171       .551      1.000
  SUM BES       .757       .178       .517       .285      1.000
 SUM NBMC       .292       .463       .288       .159       .386      1.000
0         PSI
0                 AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
                .427       .786       .514       .697
0         REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0              SUM BES    SUM NBMC
+            --------   --------
       AB       .757       .000
       SN       .000       .463
 INTENTIO       .477       .105
 BEHAVIOU       .263       .058
1FISHBEIN MODEL FOR NEWSPAPERS
-MODIFICATION INDICES AND ESTIMATED CHANGE
0         MODIFICATION INDICES FOR LAMBDA Y
0                 AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
 AB1:GOOD       .000      2.112      7.009      9.686
 AB2:BENE       .000       .881       .016      1.723
 AB3:REW/       .000       .185       .009       .453
 AB4:UNPL       .000      2.709      6.686      4.511
 SUBJECTI     23.183       .000     22.565      3.248
  BEH INT       .460       .015       .000       .493
 ACTUAL B       .460       .015       .000       .000
0         ESTIMATED CHANGE FOR LAMBDA Y
0                 AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
 AB1:GOOD       .000       .114       .210       .020
 AB2:BENE       .000       .083       .011      -.010
 AB3:REW/       .000       .034      -.007      -.004
 AB4:UNPL       .000       .116      -.183      -.012
 SUBJECTI       .623       .000       .428       .014
  BEH INT      -.340      -.034       .000      -.013
 ACTUAL B      1.535       .155       .000       .000
0         MODIFICATION INDICES FOR LAMBDA X
0              SUM BES    SUM NBMC
+            --------   --------
 BE1:ENJO       .000       .156
 BE2:RELA       .000       .028
 BE3:NEWS       .000       .233
 BE4:SPOR       .000      3.348
 BE5:UNBI       .000      2.727
 NB1:PARE     22.969       .000
 NB2:PART     13.648       .000
0         ESTIMATED CHANGE FOR LAMBDA X
0              SUM BES    SUM NBMC
+            --------   --------
 BE1:ENJO       .000      -.040
 BE2:RELA       .000      -.016
 BE3:NEWS       .000       .044
 BE4:SPOR       .000      -.186
 BE5:UNBI       .000       .160
 NB1:PARE     -1.650       .000
 NB2:PART      1.407       .000
```

Appendix VII - Fishbein Model for Newspapers (cont.)

```
0         MODIFICATION INDICES FOR BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
       AB       .000      15.618        .023        .553
       SN     23.183        .000      22.565       3.113
 INTENTIO       .000        .000        .000        .493
 BEHAVIOU       .460        .015        .000        .000
0         ESTIMATED CHANGE FOR BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
       AB       .000        .308        .015       -.006
       SN       .623        .000        .428        .015
 INTENTIO       .000        .000        .000       -.013
 BEHAVIOU      1.535        .155        .000        .000
0         MODIFICATION INDICES FOR GAMMA
0             SUM BES     SUM NBMC
+           --------    --------
       AB       .000        .059
       SN     12.675        .000
 INTENTIO      3.489       1.753
 BEHAVIOU      2.177        .521
0         ESTIMATED CHANGE FOR GAMMA
0             SUM BES     SUM NBMC
+           --------    --------
       AB       .000       -.007
       SN       .201        .000
 INTENTIO       .288       -.070
 BEHAVIOU      1.193        .294
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0         MODIFICATION INDICES FOR THETA EPS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000       1.753        .493
0         MODIFICATION INDICES FOR THETA EPS
0            ACTUAL B
+           --------
                .000
0         ESTIMATED CHANGE FOR THETA EPS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000      -1.523        .534
0         ESTIMATED CHANGE FOR THETA EPS
0            ACTUAL B
+           --------
                .000
0         MODIFICATION INDICES FOR THETA DELTA
0            BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000        .000      46.564
0         MODIFICATION INDICES FOR THETA DELTA
0            NB2:PART
+           --------
                .000
0         ESTIMATED CHANGE FOR THETA DELTA
0            BE1:ENJO    BE2:RELA    BE3:NEWS    BE4:SPOR    BE5:UNBI    NB1:PARE
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000        .000      43.723
0         ESTIMATED CHANGE FOR THETA DELTA
0            NB2:PART
+           --------
                .000
0        MAXIMUM MODIFICATION INDEX IS   46.56 FOR ELEMENT ( 6, 6) OF THETA DELTA
-          THE PROBLEM USED    19136 BYTES (=  7.3% OF AVAILABLE WORKSPACE)
-                            TIME USED :   105.2 SECONDS
```

Appendix VII - Descriptive Statistics for Fishbein Constructs for Breakfast Cereals

Number of valid observations (listwise) = 107.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
BCAB1	1.32	1.22	.00	3.00	177	AB1: Bad - Good
BCAB2	1.15	1.20	-2.00	3.00	175	AB2: Beneficial - Harmful
BCAB3	.56	.93	-2.00	3.00	174	AB3: Rewarding - Punishing
BCAB4	.76	1.06	-2.00	3.00	174	AB4: Unpleasant - Pleasant
BCBE1	6.18	3.21	-9.00	9.00	177	BE1: Tastes Good
BCBE2	2.97	3.65	-9.00	9.00	177	BE2: Value for Money
BCBE3	4.73	3.40	-6.00	9.00	177	Healthy Food
BCBEH	1.79	2.24	.00	13.00	177	Actual Behaviour
BCBI	2.34	1.25	-3.00	3.00	177	Behavioural Intention
BCNB1	9.09	7.46	-4.00	21.00	114	NB1: Children
BCNB2	7.54	7.68	-21.00	21.00	160	NB2: Partner
BCRESP	168.64	93.77	10.00	334.00	177	
BCSN	1.29	1.34	-3.00	3.00	175	Subjective Norm

Appendix VII - Correlation Matrix for Fishbein Constructs for Breakfast Cereals

- - Correlation Coefficients - -

	BCAB1	BCAB2	BCAB3	BCAB4	BCBE1	BCBE2	BCBE3	BCBEH	BCBI	BCNB1
BCAB1	1.0000 (177) P= .	.4421 (175) P= .000	.4126 (174) P= .000	.5521 (174) P= .000	.2558 (177) P= .001	.1865 (177) P= .013	.2598 (177) P= .000	.0369 (177) P= .626	.2987 (177) P= .000	.2166 (114) P= .021
BCAB2	.4421 (175) P= .000	1.0000 (175) P= .	.5251 (174) P= .000	.3440 (174) P= .000	.1643 (175) P= .030	.1141 (175) P= .133	.2997 (175) P= .000	-.0747 (175) P= .326	.2189 (175) P= .004	.0179 (113) P= .851
BCAB3	.4126 (174) P= .000	.5251 (174) P= .000	1.0000 (174) P= .	.6046 (174) P= .000	.1914 (174) P= .011	.1796 (174) P= .018	.2387 (174) P= .002	-.0681 (174) P= .372	.1243 (174) P= .102	.0084 (113) P= .929
BCAB4	.5521 (174) P= .000	.3440 (174) P= .000	.6046 (174) P= .000	1.0000 (174) P= .	.2147 (174) P= .004	.1889 (174) P= .013	.1884 (174) P= .013	.0207 (174) P= .786	.1749 (174) P= .021	.1069 (113) P= .260
BCBE1	.2558 (177) P= .001	.1643 (175) P= .030	.1914 (174) P= .011	.2147 (174) P= .004	1.0000 (177) P= .	.2555 (177) P= .001	.2873 (177) P= .000	.0329 (177) P= .664	.2122 (177) P= .005	.3610 (114) P= .000
BCBE2	.1865 (177) P= .013	.1141 (175) P= .133	.1796 (174) P= .018	.1889 (174) P= .013	.2555 (177) P= .001	1.0000 (177) P= .	.3813 (177) P= .000	-.1363 (177) P= .070	-.0452 (177) P= .550	.2155 (114) P= .021
BCBE3	.2598 (177) P= .000	.2997 (175) P= .000	.2387 (174) P= .002	.1884 (174) P= .013	.2873 (177) P= .000	.3813 (177) P= .000	1.0000 (177) P= .	-.0045 (177) P= .953	.0711 (177) P= .347	.2785 (114) P= .003
BCBEH	.0369 (177) P= .626	-.0747 (175) P= .326	-.0681 (174) P= .372	.0207 (174) P= .786	.0329 (177) P= .664	-.1363 (177) P= .070	-.0045 (177) P= .953	1.0000 (177) P= .	.1653 (177) P= .028	.1470 (114) P= .119
BCBI	.2987 (177) P= .000	.2189 (175) P= .004	.1243 (174) P= .102	.1749 (174) P= .021	.2122 (177) P= .005	-.0452 (177) P= .550	.0711 (177) P= .347	.1653 (177) P= .028	1.0000 (177) P= .	.2033 (114) P= .030
BCNB1	.2166 (114) P= .021	.0179 (113) P= .851	.0084 (113) P= .929	.1069 (113) P= .260	.3610 (114) P= .000	.2155 (114) P= .021	.2785 (114) P= .003	.1470 (114) P= .119	.2033 (114) P= .030	1.0000 (114) P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Breakfast Cereals (cont.)

- - Correlation Coefficients - -

	BCAB1	BCAB2	BCAB3	BCAB4	BCBE1	BCBE2	BCBE3	BCBEH	BCBI	BCNB1
BCNB2	.2806	.2718	.2658	.2445	.2939	.2368	.2017	.1359	.1997	.4130
	(160)	(158)	(157)	(157)	(160)	(160)	(160)	(160)	(160)	(108)
	P= .000	P= .001	P= .001	P= .002	P= .000	P= .003	P= .011	P= .087	P= .011	P= .000
BCRESP	.0055	-.0297	.0108	.0224	-.0614	.0837	.1062	.0462	-.0482	.1026
	(177)	(175)	(174)	(174)	(177)	(177)	(177)	(177)	(177)	(114)
	P= .942	P= .697	P= .887	P= .769	P= .417	P= .268	P= .160	P= .541	P= .524	P= .277
BCSN	.4375	.3191	.3742	.3696	.2601	.1754	.1746	.1567	.3293	.4780
	(175)	(173)	(172)	(172)	(175)	(175)	(175)	(175)	(175)	(114)
	P= .000	P= .000	P= .000	P= .000	P= .001	P= .020	P= .021	P= .038	P= .000	P= .000

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

	BCNB2	BCRESP	BCSN
BCAB1	.2806	.0055	.4375
	(160)	(177)	(175)
	P= .000	P= .942	P= .000
BCAB2	.2718	-.0297	.3191
	(158)	(175)	(173)
	P= .001	P= .697	P= .000
BCAB3	.2658	.0108	.3742
	(157)	(174)	(172)
	P= .001	P= .887	P= .000
BCAB4	.2445	.0224	.3696
	(157)	(174)	(172)
	P= .002	P= .769	P= .000
BCBE1	.2939	-.0614	.2601
	(160)	(177)	(175)
	P= .000	P= .417	P= .001
BCBE2	.2368	.0837	.1754
	(160)	(177)	(175)
	P= .003	P= .268	P= .020

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Breakfast Cereals (cont.)

- - Correlation Coefficients - -

	BCNB2	BCRESP	BCSN
BCBE3	.2017	.1062	.1746
	(160)	(177)	(175)
	P= .011	P= .160	P= .021
BCBEH	.1359	.0462	.1567
	(160)	(177)	(175)
	P= .087	P= .541	P= .038
BCBI	.1997	-.0482	.3293
	(160)	(177)	(175)
	P= .011	P= .524	P= .000
BCNB1	.4130	.1026	.4780
	(108)	(114)	(114)
	P= .000	P= .277	P= .000
BCNB2	1.0000	.0929	.5808
	(160)	(160)	(160)
	P= .	P= .242	P= .000
BCRESP	.0929	1.0000	.0310
	(160)	(177)	(175)
	P= .242	P= .	P= .684
BCSN	.5808	.0310	1.0000
	(160)	(175)	(175)
	P= .000	P= .684	P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Fishbein Model for Breakfast Cereal

```
1                            DOS - L I S R E L  7.16
0                                       BY
0                          KARL G JORESKOG AND DAG SORBOM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0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 FISHBEIN MODEL FOR CEREALS
 DA NI=12 NO=107    MA=CM
 CM=C:\mainanal\wave3\bcfish.cov
 SE
 2 3 4 5 6 1 12 7 8 9 10 11
 MO NY=7 NX=5 NK=2 NE=4 BE=SD PS=DI
 LA
 'Beh Int' 'AB1:Good/bad' 'AB2:Benef/Harm' 'AB3:Rew/Pun'
 'AB4:Unpl/Pleas' 'Subjective Norm' 'BE1:Taste' 'BE2:Value'
 'BE3:Healthy' 'NB1:Children' 'NB2:Partner' 'Actual Behaviour'/
 LE
 'Ab' 'Sn' 'Intention' 'Behaviour'/
 LK
 'Sum BEs' 'Sum NBMC'/
 PA LX
 1(0 0) 2(1 0) 1(0 0) 1(0 1)
 PA LY
 1(0 0 0 0) 3(1 0 0 0) 3(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(2,1) BE(4,1) BE(4,2)
 FI TE 6 TE 7 Te 5
 VA 1 LX(1,1) LX(4,2) LY(1,1) LY(5,2) LY(6,3) LY(7,4)
 VA .18 te 5
 VA .13 te 6
 VA .62 te 7
 OU ALL AD=30 ME=ML
1FISHBEIN MODEL FOR CEREALS
0                          NUMBER OF INPUT VARIABLES 12
0                          NUMBER OF Y - VARIABLES    7
0                          NUMBER OF X - VARIABLES    5
0                          NUMBER OF ETA - VARIABLES  4
0                          NUMBER OF KSI - VARIABLES  2
0                          NUMBER OF OBSERVATIONS   107
1FISHBEIN MODEL FOR CEREALS
0        COVARIANCE MATRIX TO BE ANALYZED
```

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	1.559					
AB2:BENE	.537	1.272				
AB3:REW/	.382	.377	.742			
AB4:UNPL	.651	.450	.502	.992		
SUBJECTI	.646	.458	.363	.365	1.828	
BEH INT	.348	.252	.075	.154	.520	1.373
ACTUAL B	-.092	-.386	-.181	-.021	.462	.303
BE1:TAST	.861	.458	.582	.688	.828	.651
BE2:VALU	1.132	.567	.607	.601	1.080	.285
BE3:HEAL	1.295	1.055	.617	.761	.991	.214
NB1:CHIL	1.919	.308	.040	.659	4.624	1.767
NB2:PART	2.144	1.344	1.327	1.641	5.828	.330

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

```
0        COVARIANCE MATRIX TO BE ANALYZED
0            ACTUAL B   BE1:TAST   BE2:VALU   BE3:HEAL   NB1:CHIL   NB2:PART
+            --------   --------   --------   --------   --------   --------
 ACTUAL B       6.178
 BE1:TAST       -.631      9.459
 BE2:VALU      -2.258      4.159     14.148
 BE3:HEAL        .305      3.715      5.548     11.133
 NB1:CHIL       2.880      8.235      6.367      7.717     56.252
 NB2:PART       2.255      7.289      5.555      4.809     24.753     57.912
1FISHBEIN MODEL FOR CEREALS
0PARAMETER SPECIFICATIONS
0        LAMBDA Y
0                  AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
 AB1:GOOD           0          0          0          0
 AB2:BENE           1          0          0          0
 AB3:REW/           2          0          0          0
 AB4:UNPL           3          0          0          0
 SUBJECTI           0          0          0          0
  BEH INT           0          0          0          0
 ACTUAL B           0          0          0          0
0        LAMBDA X
0             SUM BES   SUM NBMC
+            --------   --------
 BE1:TAST           0          0
 BE2:VALU           4          0
 BE3:HEAL           5          0
 NB1:CHIL           0          0
 NB2:PART           0          6
0        BETA
0                  AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
       AB           0          0          0          0
       SN           0          0          0          0
 INTENTIO           7          8          0          0
 BEHAVIOU           0          0          9          0
0        GAMMA
0             SUM BES   SUM NBMC
+            --------   --------
       AB          10          0
       SN           0         11
 INTENTIO           0          0
 BEHAVIOU           0          0
0        PHI
0             SUM BES   SUM NBMC
+            --------   --------
  SUM BES          12
 SUM NBMC          13         14
0        PSI
0                  AB         SN   INTENTIO   BEHAVIOU
+            --------   --------   --------   --------
                   15         16         17         18
0        THETA EPS
0            AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+            --------   --------   --------   --------   --------   --------
                   19         20         21         22          0          0
0        THETA EPS
0            ACTUAL B
+            --------
                    0
0        THETA DELTA
0            BE1:TAST   BE2:VALU   BE3:HEAL   NB1:CHIL   NB2:PART
+            --------   --------   --------   --------   --------
                   23         24         25         26         27
1FISHBEIN MODEL FOR CEREALS
```

```
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                  AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
 AB1:GOOD         1.000        .000        .000        .000
 AB2:BENE          .705        .000        .000        .000
 AB3:REW/          .705        .000        .000        .000
 AB4:UNPL          .891        .000        .000        .000
 SUBJECTI          .000       1.000        .000        .000
  BEH INT          .000        .000       1.000        .000
 ACTUAL B          .000        .000        .000       1.000
0         LAMBDA X
0               SUM BES    SUM NBMC
+              --------    --------
 BE1:TAST         1.000        .000
 BE2:VALU         1.159        .000
 BE3:HEAL         1.065        .000
 NB1:CHIL          .000       1.000
 NB2:PART          .000        .562
0         BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
       AB          .000        .000        .000        .000
       SN          .000        .000        .000        .000
 INTENTIO          .197        .195        .000        .000
 BEHAVIOU          .000        .000       1.060        .000
0         GAMMA
0               SUM BES    SUM NBMC
+              --------    --------
       AB          .223        .000
       SN          .000        .136
 INTENTIO          .000        .000
 BEHAVIOU          .000        .000
0         COVARIANCE MATRIX OF ETA AND KSI
0                  AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+              --------    --------    --------    --------    --------    --------
       AB          .713
       SN          .229       1.648
 INTENTIO          .185        .366       1.180
 BEHAVIOU          .196        .388       1.251       7.640
  SUM BES          .872       1.026        .372        .394       3.906
 SUM NBMC         1.680       6.003       1.501       1.592       7.525      44.036
0         PSI
0                  AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
                   .518        .829       1.072       6.313
0         THETA EPS
0              AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+              --------    --------    --------    --------    --------    --------
                   .847        .918        .388        .426        .180        .130
0         THETA EPS
0              ACTUAL B
+              --------
                   .620
0         THETA DELTA
0              BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+              --------    --------    --------    --------    --------
                  5.553       8.903       6.705      12.215      43.998
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0              AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+              --------    --------    --------    --------    --------    --------
                   .457        .278        .478        .571        .902        .901
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0              ACTUAL B
+              --------
                   .925
0         TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0         SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0              BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+              --------    --------    --------    --------    --------
                   .413        .371        .398        .783        .240
0         TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .917
```

```
0         SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                  AB           SN    INTENTIO    BEHAVIOU
+              --------     --------  --------    --------
                  .273         .497      .091        .174
0         TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS    .617
1           BEHAVIOR UNDER MINIMIZATION ITERATIONS

            ITER  TRY     ABSCISSA             SLOPE                FUNCTION
0              1    0     .00000000D+00      -.32747649D+00       .51969675D+00
                    1     .10000000D+01       .40960699D+00       .44734452D+00
                    2     .44428684D+00      -.14097605D+00       .41312692D+00
                    3     .58657645D+00      -.63497119D-01       .39841111D+00
                    4     .64206361D+00      -.28440102D-01       .39584382D+00
0              2    0     .00000000D+00      -.66411092D-01       .39584382D+00
                    1     .64206361D+00      -.12395134D-01       .37093184D+00
                    2     .78939904D+00      -.77025094D-03       .36996394D+00
0              3    0     .00000000D+00      -.15224230D-01       .36996394D+00
                    1     .78939904D+00      -.22397691D-02       .36271142D+00
                    2     .92556731D+00       .63505023D-03       .36259955D+00
0              4    0     .00000000D+00      -.36298590D-02       .36259955D+00
                    1     .92556731D+00      -.16435337D-02       .36016801D+00
                    2     .16914041D+01      -.81035011D-04       .35951193D+00
0              5    0     .00000000D+00      -.11366204D-02       .35951193D+00
                    1     .16914041D+01      -.46170752D-03       .35816460D+00
                    2     .28484927D+01      -.14983415D-04       .35788972D+00
0              6    0     .00000000D+00      -.52702697D-03       .35788972D+00
                    1     .28484927D+01       .66222122D-03       .35799395D+00
                    2     .12623374D+01      -.45352737D-04       .35752194D+00
0              7    0     .00000000D+00      -.15558797D-03       .35752194D+00
                    1     .12623374D+01       .10880211D-04       .35743071D+00
0              8    0     .00000000D+00      -.37150260D-04       .35743071D+00
                    1     .12623374D+01      -.63358530D-05       .35740326D+00
                    2     .15218908D+01       .77329008D-08       .35740243D+00
0              9    0     .00000000D+00      -.88710971D-05       .35740243D+00
                    1     .15218908D+01       .34720014D-05       .35739834D+00
                    2     .10937968D+01       .81057467D-08       .35739759D+00
0             10    0     .00000000D+00      -.79252638D-06       .35739759D+00
                    1     .10937968D+01       .96157042D-07       .35739721D+00
                    2     .97544612D+00      -.11883622D-11       .35739720D+00
0             11    0     .00000000D+00      -.72839982D-07       .35739720D+00
                    1     .97544612D+00      -.13571466D-07       .35739716D+00
                    2     .11988064D+01       .68282505D-12       .35739716D+00
0             12    0     .00000000D+00      -.66465961D-08       .35739716D+00
                    1     .11988064D+01      -.51976482D-09       .35739716D+00
0             13    0     .00000000D+00      -.16678755D-09       .35739716D+00
                    1     .11988064D+01       .38340547D-10       .35739716D+00
                    2     .97473719D+00      -.23982139D-15       .35739716D+00
0             14    0     .00000000D+00      -.46736570D-11       .35739716D+00
                    1     .97473719D+00       .62310966D-12       .35739716D+00
                    2     .86006947D+00       .10032506D-17       .35739716D+00
1FISHBEIN MODEL FOR CEREALS
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0         LAMBDA Y
0                  AB           SN    INTENTIO    BEHAVIOU
+              --------     --------  --------    --------
 AB1:GOOD       1.000         .000      .000        .000
 AB2:BENE        .765         .000      .000        .000
 AB3:REW/        .731         .000      .000        .000
 AB4:UNPL        .992         .000      .000        .000
 SUBJECTI        .000        1.000      .000        .000
  BEH INT        .000         .000     1.000        .000
 ACTUAL B        .000         .000      .000       1.000
0         LAMBDA X
0              SUM BES     SUM NBMC
+              --------     --------
 BE1:TAST       1.000         .000
 BE2:VALU       1.235         .000
 BE3:HEAL       1.195         .000
 NB1:CHIL        .000        1.000
 NB2:PART        .000        1.177
```

```
0        BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
       AB        .000        .000        .000        .000
       SN        .000        .000        .000        .000
 INTENTIO        .113        .279        .000        .000
 BEHAVIOU        .000        .000        .250        .000
0        GAMMA
0            SUM BES     SUM NBMC
+              --------    --------
       AB        .238        .000
       SN        .000        .218
 INTENTIO        .000        .000
 BEHAVIOU        .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+              --------    --------    --------    --------    --------    --------
       AB        .645
       SN        .255       1.649
 INTENTIO        .144        .489       1.234
 BEHAVIOU        .036        .122        .309       5.558
  SUM BES        .785       1.074        .388        .097       3.300
 SUM NBMC       1.173       4.753       1.459        .365       4.932      21.824
0        PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
                 .458        .614       1.082       5.480
0        THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+              --------    --------    --------    --------    --------    --------
                 .914        .895        .397        .357        .180        .130
0        THETA EPS
0           ACTUAL B
+              --------
                 .620
0        THETA DELTA
0           BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+              --------    --------    --------    --------    --------
                6.159       9.117       6.422      34.427      27.690
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+              --------    --------    --------    --------    --------    --------
                 .414        .296        .465        .640        .902        .905
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           ACTUAL B
+              --------
                 .900
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+              --------    --------    --------    --------    --------
                 .349        .356        .423        .388        .522
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .849
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 AB          SN    INTENTIO    BEHAVIOU
+              --------    --------    --------    --------
                 .289        .628        .124        .014
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .718

0         CHI-SQUARE WITH  51 DEGREES OF FREEDOM =    75.77 (P = .014)
0                    GOODNESS OF FIT INDEX = .903
            ADJUSTED GOODNESS OF FIT INDEX = .851
                 ROOT MEAN SQUARE RESIDUAL =      .778
```

1FISHBEIN MODEL FOR CEREALS

0 FITTED COVARIANCE MATRIX

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	1.559					
AB2:BENE	.493	1.272				
AB3:REW/	.472	.361	.742			
AB4:UNPL	.640	.489	.468	.992		
SUBJECTI	.255	.195	.187	.254	1.829	
BEH INT	.144	.110	.105	.143	.489	1.364
ACTUAL B	.036	.028	.026	.036	.122	.309
BE1:TAST	.785	.600	.574	.779	1.074	.388
BE2:VALU	.969	.741	.709	.962	1.326	.480
BE3:HEAL	.938	.717	.686	.931	1.283	.464
NB1:CHIL	1.173	.897	.858	1.164	4.753	1.459
NB2:PART	1.380	1.055	1.009	1.370	5.593	1.717

0 FITTED COVARIANCE MATRIX

	ACTUAL B	BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
ACTUAL B	6.178					
BE1:TAST	.097	9.459				
BE2:VALU	.120	4.075	14.148			
BE3:HEAL	.116	3.943	4.868	11.133		
NB1:CHIL	.365	4.932	6.089	5.892	56.252	
NB2:PART	.430	5.804	7.166	6.933	25.682	57.912

0 FITTED RESIDUALS

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	.000					
AB2:BENE	.044	.000				
AB3:REW/	-.090	.017	.000			
AB4:UNPL	.011	-.040	.034	.000		
SUBJECTI	.391	.263	.176	.111	-.001	
BEH INT	.204	.142	-.030	.011	.031	.008
ACTUAL B	-.128	-.414	-.207	-.057	.340	-.006
BE1:TAST	.076	-.143	.008	-.091	-.246	.263
BE2:VALU	.163	-.174	-.101	-.361	-.246	-.195
BE3:HEAL	.357	.338	-.068	-.169	-.292	-.250
NB1:CHIL	.746	-.589	-.817	-.506	-.128	.308
NB2:PART	.764	.289	.317	.271	.235	-1.387

0 FITTED RESIDUALS

	ACTUAL B	BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
ACTUAL B	.001					
BE1:TAST	-.729	.000				
BE2:VALU	-2.378	.084	.000			
BE3:HEAL	.189	-.228	.680	.000		
NB1:CHIL	2.515	3.303	.278	1.826	.000	
NB2:PART	1.826	1.486	-1.611	-2.124	-.928	.000

-SUMMARY STATISTICS FOR FITTED RESIDUALS

```
 SMALLEST FITTED RESIDUAL =   -2.378
   MEDIAN FITTED RESIDUAL =     .000
  LARGEST FITTED RESIDUAL =    3.303
```

-STEMLEAF PLOT

```
 - 2|41
 - 1|64
 - 0|98765443322222221111111100000000000000000000
   0|11112222233333333344778
   1|588
   2|5
   3|3
```

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

0 STANDARDIZED RESIDUALS

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	.000					
AB2:BENE	.627	.000				
AB3:REW/	-2.335	.377	.000			
AB4:UNPL	.425	-1.242	2.194	.000		
SUBJECTI	2.841	2.023	1.896	1.113	-1.285	
BEH INT	2.066	1.407	-.472	.209	2.240	2.476
ACTUAL B	-.429	-1.530	-1.006	-.240	1.115	-.600
BE1:TAST	.273	-.525	.041	-.489	-.973	.856
BE2:VALU	.478	-.526	-.448	-1.592	-.803	-.520
BE3:HEAL	1.242	1.191	-.360	-.922	-1.169	-.770
NB1:CHIL	.928	-.787	-1.495	-.840	-.590	.451
NB2:PART	.974	.392	.598	.472	1.721	-2.148

0 STANDARDIZED RESIDUALS

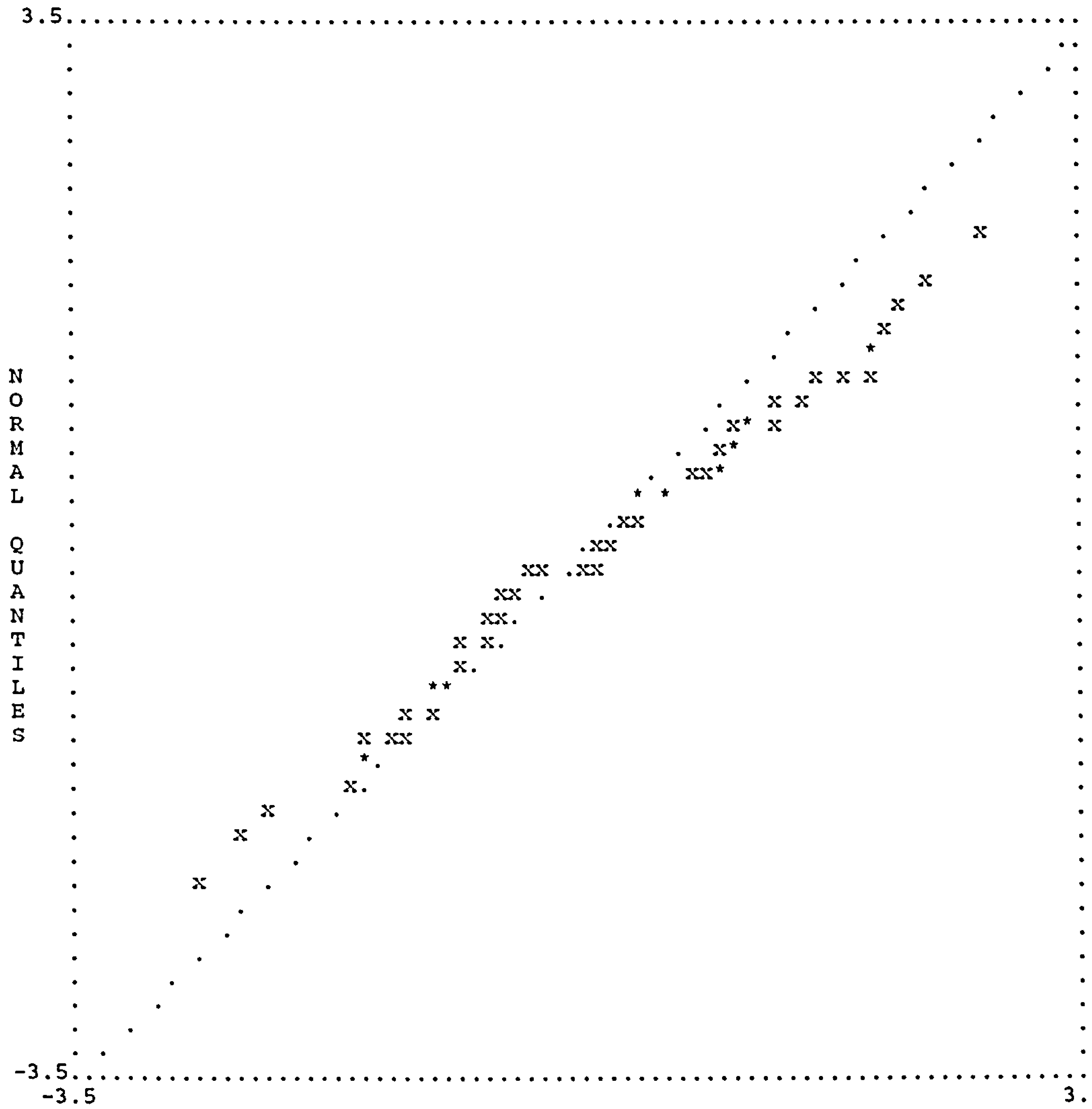
	ACTUAL B	BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
ACTUAL B	.000					
BE1:TAST	-.990	.000				
BE2:VALU	-2.642	.176	.000			
BE3:HEAL	.237	-.642	1.591	.000		
NB1:CHIL	1.417	2.017	.139	1.087	.000	
NB2:PART	1.020	1.004	-.897	-1.440	-.657	.000

```
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =   -2.642
   MEDIAN STANDARDIZED RESIDUAL =     .000
  LARGEST STANDARDIZED RESIDUAL =    2.841
-STEMLEAF PLOT
 - 2|631
 - 1|6554322000
 - 0|99888876665555544420000000000
   0|122234445556699
   1|0001112244679
   2|0012258
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR BE2:VALU AND ACTUAL B =  -2.642
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR SUBJECTI AND AB1:GOOD =   2.841
```

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

1FISHBEIN MODEL FOR CEREALS

\- QPLOT OF STANDARDIZED RESIDUALS



STANDARDIZED RESIDUALS

1FISHBEIN MODEL FOR CEREALS

-STANDARD ERRORS

0 LAMBDA Y

0	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.167	.000	.000	.000
AB3:REW/	.135	.000	.000	.000
AB4:UNPL	.172	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.000	.000	.000	.000
ACTUAL B	.000	.000	.000	.000

0 LAMBDA X

0	SUM BES	SUM NBMC
BE1:TAST	.000	.000
BE2:VALU	.302	.000
BE3:HEAL	.282	.000
NB1:CHIL	.000	.000
NB2:PART	.000	.229

0 BETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.157	.092	.000	.000
BEHAVIOU	.000	.000	.227	.000

0 GAMMA

	SUM BES	SUM NBMC
AB	.073	.000
SN	.000	.042
INTENTIO	.000	.000
BEHAVIOU	.000	.000

0 PHI

	SUM BES	SUM NBMC
SUM BES	1.205	
SUM NBMC	1.603	7.077

0 PSI

AB	SN	INTENTIO	BEHAVIOU
.150	.190	.168	.839

0 THETA EPS

AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
.155	.138	.071	.092	.000	.000

0 THETA EPS

ACTUAL B
.000

0 THETA DELTA

BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
1.093	1.633	1.278	5.925	5.979

1FISHBEIN MODEL FOR CEREALS

0 CORRELATIONS OF ESTIMATES

	LY 2,1	LY 3,1	LY 4,1	LX 2,1	LX 3,1	LX 5,2
LY 2,1	1.000					
LY 3,1	.458	1.000				
LY 4,1	.493	.573	1.000			
LX 2,1	.000	.000	.000	1.000		
LX 3,1	.000	.000	.000	.523	1.000	
LX 5,2	.000	.000	.000	.000	.000	1.000
BE 3,1	.061	.072	.078	.000	.000	.001
BE 3,2	.000	.000	.002	.000	.000	-.000
BE 4,3	.000	.000	.000	.000	.000	.000
GA 1,1	-.273	-.326	-.383	.401	.418	.000
GA 2,2	.000	.000	.000	.000	.000	.564
PH 1,1	.000	.000	.000	-.679	-.718	.000
PH 2,1	.000	.000	.000	-.382	-.410	-.361
PH 2,2	.000	.000	.000	.000	.000	-.713
PS 1,1	-.514	-.611	-.679	.000	.005	.000
PS 2,2	.000	.000	.000	.000	.000	.068
PS 3,3	.000	.000	.000	.000	.000	.000
PS 4,4	.000	.000	.000	.000	.000	.000
TE 1,1	.193	.233	.300	.000	.000	.000
TE 2,2	-.177	.001	.029	.000	.000	.000
TE 3,3	-.002	-.246	.071	.000	.000	.000
TE 4,4	-.015	.015	-.406	.000	.000	.000
TD 1,1	.000	.000	.000	.314	.342	.000
TD 2,2	.000	.000	.000	-.316	.018	.000
TD 3,3	.000	.000	.000	.002	-.375	.000
TD 4,4	.000	.000	.000	.000	.000	.289
TD 5,5	.000	.000	.000	.000	.000	-.352

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

0 CORRELATIONS OF ESTIMATES

	BE 3,1	BE 3,2	BE 4,3	GA 1,1	GA 2,2	PH 1,1
BE 3,1	1.000					
BE 3,2	-.287	1.000				
BE 4,3	-.001	-.004	1.000			
GA 1,1	-.044	-.007	.000	1.000		
GA 2,2	-.009	-.016	.000	-.000	1.000	
PH 1,1	.001	.001	.000	-.531	.000	1.000
PH 2,1	-.004	-.000	.000	-.295	-.379	.619
PH 2,2	.002	-.000	.000	.000	-.735	.054
PS 1,1	-.081	.006	.000	.165	.000	.017
PS 2,2	.016	-.026	.000	.000	-.405	.000
PS 3,3	-.014	-.038	-.016	.000	.001	.000
PS 4,4	.000	.000	-.016	.000	.000	.000
TE 1,1	.030	-.001	.000	-.127	.000	.000
TE 2,2	-.000	-.000	.000	.006	.000	.000
TE 3,3	-.000	-.001	.000	.015	.000	.000
TE 4,4	-.003	-.006	.000	.107	-.000	.000
TD 1,1	-.001	-.001	.000	.240	.000	-.364
TD 2,2	-.001	-.001	.000	-.009	.000	.059
TD 3,3	-.001	-.001	.000	-.015	.000	.096
TD 4,4	-.003	.001	.000	.000	.312	.000
TD 5,5	-.007	.001	.000	.000	.093	.000

0 CORRELATIONS OF ESTIMATES

	PH 2,1	PH 2,2	PS 1,1	PS 2,2	PS 3,3	PS 4,4
PH 2,1	1.000					
PH 2,2	.581	1.000				
PS 1,1	.017	.000	1.000			
PS 2,2	.089	.102	-.000	1.000		
PS 3,3	.000	.000	-.000	-.001	1.000	
PS 4,4	.000	.000	.000	.000	.000	1.000
TE 1,1	.000	.000	-.252	.000	-.000	.000
TE 2,2	.000	.000	.005	.000	.000	.000
TE 3,3	.000	.000	.011	.000	-.000	.000
TE 4,4	.000	.000	.080	.000	-.001	.000
TD 1,1	-.180	.000	-.019	.000	.000	.000
TD 2,2	.059	.000	-.020	.000	.000	.000
TD 3,3	.096	.000	-.032	.000	.000	.000
TD 4,4	-.143	-.304	.000	-.122	.000	.000
TD 5,5	.052	.059	.000	-.301	.000	.000

0 CORRELATIONS OF ESTIMATES

	TE 1,1	TE 2,2	TE 3,3	TE 4,4	TD 1,1	TD 2,2
TE 1,1	1.000					
TE 2,2	-.009	1.000				
TE 3,3	-.023	-.012	1.000			
TE 4,4	-.158	-.085	-.209	1.000		
TD 1,1	.000	.000	.000	.000	1.000	
TD 2,2	.000	.000	.000	.000	-.065	1.000
TD 3,3	.000	.000	.000	.000	-.106	-.111
TD 4,4	.000	.000	.000	.000	.000	.000
TD 5,5	.000	.000	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TD 3,3	TD 4,4	TD 5,5
TD 3,3	1.000		
TD 4,4	.000	1.000	
TD 5,5	.000	-.071	1.000

1FISHBEIN MODEL FOR CEREALS
-T-VALUES

0 LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	4.568	.000	.000	.000
AB3:REW/	5.416	.000	.000	.000
AB4:UNPL	5.776	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.000	.000	.000	.000
ACTUAL B	.000	.000	.000	.000

```
0         LAMBDA X
0             SUM BES    SUM NBMC
+           ________   ________
 BE1:TAST       .000       .000
 BE2:VALU      4.082       .000
 BE3:HEAL      4.231       .000
 NB1:CHIL       .000       .000
 NB2:PART       .000      5.134
0         BETA
0                 AB         SN   INTENTIO   BEHAVIOU
+           ________   ________   ________   ________
       AB       .000       .000       .000       .000
       SN       .000       .000       .000       .000
 INTENTIO       .720      3.038       .000       .000
 BEHAVIOU       .000       .000      1.102       .000
0         GAMMA
0             SUM BES    SUM NBMC
+           ________   ________
       AB      3.245       .000
       SN       .000      5.161
 INTENTIO       .000       .000
 BEHAVIOU       .000       .000
0         PHI
0             SUM BES    SUM NBMC
+           ________   ________
  SUM BES      2.739
 SUM NBMC      3.078      3.084
0         PSI
0                 AB         SN   INTENTIO   BEHAVIOU
+           ________   ________   ________   ________
               3.049      3.224      6.420      6.532
0         THETA EPS
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+           ________   ________   ________   ________   ________   ________
               5.918      6.490      5.573      3.898       .000       .000
0         THETA EPS
0           ACTUAL B
+           ________
                .000
0         THETA DELTA
0           BE1:TAST   BE2:VALU   BE3:HEAL   NB1:CHIL   NB2:PART
+           ________   ________   ________   ________   ________
               5.635      5.584      5.024      5.811      4.631
1FISHBEIN MODEL FOR CEREALS
-TOTAL AND INDIRECT EFFECTS
0         TOTAL EFFECTS OF KSI ON  ETA
0             SUM BES    SUM NBMC
+           ________   ________
       AB       .238       .000
       SN       .000       .218
 INTENTIO       .027       .061
 BEHAVIOU       .007       .015
0         STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0             SUM BES    SUM NBMC
+           ________   ________
       AB       .073       .000
       SN       .000       .042
 INTENTIO       .038       .023
 BEHAVIOU       .011       .015
0         INDIRECT EFFECTS OF KSI ON  ETA
0             SUM BES    SUM NBMC
+           ________   ________
       AB       .000       .000
       SN       .000       .000
 INTENTIO       .027       .061
 BEHAVIOU       .007       .015
0         STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0             SUM BES    SUM NBMC
+           ________   ________
       AB       .000       .000
       SN       .000       .000
 INTENTIO       .038       .023
 BEHAVIOU       .011       .015
```

0 TOTAL EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.113	.279	.000	.000
BEHAVIOU	.028	.070	.250	.000

0 LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS .091

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.157	.092	.000	.000
BEHAVIOU	.047	.067	.227	.000

0 INDIRECT EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.000	.000	.000	.000
BEHAVIOU	.028	.070	.000	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.000	.000	.000	.000
BEHAVIOU	.047	.067	.000	.000

0 TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	1.000	.000	.000	.000
AB2:BENE	.765	.000	.000	.000
AB3:REW/	.731	.000	.000	.000
AB4:UNPL	.992	.000	.000	.000
SUBJECTI	.000	1.000	.000	.000
BEH INT	.113	.279	1.000	.000
ACTUAL B	.028	.070	.250	1.000

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.167	.000	.000	.000
AB3:REW/	.135	.000	.000	.000
AB4:UNPL	.172	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.157	.092	.000	.000
ACTUAL B	.047	.067	.227	.000

0 INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.113	.279	.000	.000
ACTUAL B	.028	.070	.250	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.157	.092	.000	.000
ACTUAL B	.047	.067	.227	.000

0 TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.238	.000
AB2:BENE	.182	.000
AB3:REW/	.174	.000
AB4:UNPL	.236	.000
SUBJECTI	.000	.218
BEH INT	.027	.061
ACTUAL B	.007	.015

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.073	.000
AB2:BENE	.059	.000
AB3:REW/	.053	.000
AB4:UNPL	.068	.000
SUBJECTI	.000	.042
BEH INT	.038	.023
ACTUAL B	.011	.015

1FISHBEIN MODEL FOR CEREALS

-COVARIANCES

0 Y - ETA

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB	.645	.493	.472	.640	.255	.144
SN	.255	.195	.187	.254	1.649	.489
INTENTIO	.144	.110	.105	.143	.489	1.234
BEHAVIOU	.036	.028	.026	.036	.122	.309

0 Y - ETA

	ACTUAL B
AB	.036
SN	.122
INTENTIO	.309
BEHAVIOU	5.558

0 Y - KSI

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
SUM BES	.785	.600	.574	.779	1.074	.388
SUM NBMC	1.173	.897	.858	1.164	4.753	1.459

0 Y - KSI

	ACTUAL B
SUM BES	.097
SUM NBMC	.365

0 X - ETA

	BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
AB	.785	.969	.938	1.173	1.380
SN	1.074	1.326	1.283	4.753	5.593
INTENTIO	.388	.480	.464	1.459	1.717
BEHAVIOU	.097	.120	.116	.365	.430

0 X - KSI

	BE1:TAST	BE2:VALU	BE3:HEAL	NB1:CHIL	NB2:PART
SUM BES	3.300	4.075	3.943	4.932	5.804
SUM NBMC	4.932	6.089	5.892	21.824	25.682

1FISHBEIN MODEL FOR CEREALS

-FIRST ORDER DERIVATIVES

0 LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	-.236	-.169	-.027
AB2:BENE	.000	-.135	-.115	.296
AB3:REW/	.000	-.115	.128	.221
AB4:UNPL	.000	.117	.069	-.232
SUBJECTI	-.137	.000	-.089	-.152
BEH INT	-.007	.013	.000	.056
ACTUAL B	.026	-.050	.000	.000

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

```
0         LAMBDA X
0             SUM BES     SUM NBMC
+           ---------   ---------
 BE1:TAST       .000       -.074
 BE2:VALU       .000        .068
 BE3:HEAL       .000        .089
 NB1:CHIL      -.020        .000
 NB2:PART       .007        .000
0         BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+           ---------   ---------   ---------   ---------
       AB       .000       -.307       -.096        .137
       SN      -.137        .000       -.089       -.136
 INTENTIO       .000        .000        .000        .056
 BEHAVIOU       .026       -.050        .000        .000
0         GAMMA
0             SUM BES     SUM NBMC
+           ---------   ---------
       AB       .000       -.491
       SN       .051        .000
 INTENTIO       .018        .193
 BEHAVIOU       .054       -.172
0         PHI
0             SUM BES     SUM NBMC
+           ---------   ---------
  SUM BES       .000
 SUM NBMC       .000        .000
0         PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+           ---------   ---------   ---------   ---------
                .000        .000        .000        .000
0         THETA EPS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           ---------   ---------   ---------   ---------   ---------   ---------
                .000        .000        .000        .000        .019       -.003
0         THETA EPS
0            ACTUAL B
+           ---------
                .000
0         THETA DELTA
0            BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+           ---------   ---------   ---------   ---------   ---------
                .000        .000        .000        .000        .000
1FISHBEIN MODEL FOR CEREALS
-FACTOR SCORES REGRESSIONS
0         ETA
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           ---------   ---------   ---------   ---------   ---------   ---------
       AB       .140        .110        .236        .357        .006        .012
       SN       .001        .001        .002        .003        .833        .035
 INTENTIO       .002        .001        .003        .004        .025        .893
 BEHAVIOU       .000        .000        .000        .000        .001        .023
0         ETA
0            ACTUAL B    BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+           ---------   ---------   ---------   ---------   ---------   ---------
       AB       .000        .010        .008        .011        .001        .001
       SN       .000        .004        .003        .004        .007        .010
 INTENTIO       .005        .000        .000        .000        .000        .000
 BEHAVIOU       .898        .000        .000        .000        .000        .000
0         KSI
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           ---------   ---------   ---------   ---------   ---------   ---------
  SUM BES       .067        .053        .113        .171        .128        .011
 SUM NBMC       .033        .025        .055        .083       1.370        .060
0         KSI
0            ACTUAL B    BE1:TAST    BE2:VALU    BE3:HEAL    NB1:CHIL    NB2:PART
+           ---------   ---------   ---------   ---------   ---------   ---------
  SUM BES       .000        .155        .129        .178        .014        .020
 SUM NBMC       .000        .077        .064        .088        .146        .214
```

```
1FISHBEIN MODEL FOR CEREALS
-STANDARDIZED SOLUTION
0         LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
 AB1:GOOD       .803        .000        .000        .000
 AB2:BENE       .614        .000        .000        .000
 AB3:REW/       .587        .000        .000        .000
 AB4:UNPL       .797        .000        .000        .000
 SUBJECTI       .000       1.284        .000        .000
  BEH INT       .000        .000       1.111        .000
 ACTUAL B       .000        .000        .000       2.357
0         LAMBDA X
0            SUM BES     SUM NBMC
+           --------    --------
 BE1:TAST      1.817        .000
 BE2:VALU      2.243        .000
 BE3:HEAL      2.170        .000
 NB1:CHIL       .000       4.672
 NB2:PART       .000       5.497
0         BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
       AB       .000        .000        .000        .000
       SN       .000        .000        .000        .000
 INTENTIO       .082        .323        .000        .000
 BEHAVIOU       .000        .000        .118        .000
0         GAMMA
0            SUM BES     SUM NBMC
+           --------    --------
       AB       .538        .000
       SN       .000        .792
 INTENTIO       .000        .000
 BEHAVIOU       .000        .000
0         CORRELATION MATRIX OF ETA AND KSI
0                 AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+           --------    --------    --------    --------    --------    --------
       AB      1.000
       SN       .248       1.000
 INTENTIO       .162        .343       1.000
 BEHAVIOU       .019        .040        .118       1.000
  SUM BES       .538        .460        .192        .023       1.000
 SUM NBMC       .313        .792        .281        .033        .581       1.000
0         PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
                .711        .372        .876        .986
0         REGRESSION MATRIX ETA ON KSI (STANDARDIZED)
0            SUM BES     SUM NBMC
+           --------    --------
       AB       .538        .000
       SN       .000        .792
 INTENTIO       .044        .256
 BEHAVIOU       .005        .030
1FISHBEIN MODEL FOR CEREALS
-MODIFICATION INDICES AND ESTIMATED CHANGE
0         MODIFICATION INDICES FOR LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
 AB1:GOOD       .000       4.707       3.134        .016
 AB2:BENE       .000       1.409       1.307       1.821
 AB3:REW/       .000        .509        .818        .500
 AB4:UNPL       .000        .646        .301        .635
 SUBJECTI      6.008        .000       2.371        .534
  BEH INT       .898       1.263        .000        .662
 ACTUAL B       .898       1.263        .000        .000
```

Appendix VII - Fishbein Model for Breakfast Cereal (cont.)

```
0        ESTIMATED CHANGE FOR LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+             --------    --------    --------    --------
 AB1:GOOD         .000        .189        .175        .006
 AB2:BENE         .000        .098        .107       -.058
 AB3:REW/         .000        .042       -.060       -.021
 AB4:UNPL         .000       -.052       -.041        .026
 SUBJECTI         .414        .000        .250        .033
  BEH INT        1.287       -.949        .000       -.112
 ACTUAL B        -.322        .238        .000        .000
0        MODIFICATION INDICES FOR LAMBDA X
0            SUM BES    SUM NBMC
+           --------    --------
 BE1:TAST       .000        .668
 BE2:VALU       .000        .851
 BE3:HEAL       .000       1.229
 NB1:CHIL      1.702        .000
 NB2:PART       .272        .000
0        ESTIMATED CHANGE FOR LAMBDA X
0            SUM BES    SUM NBMC
+           --------    --------
 BE1:TAST       .000        .085
 BE2:VALU       .000       -.118
 BE3:HEAL       .000       -.130
 NB1:CHIL       .813        .000
 NB2:PART      -.348        .000
0        MODIFICATION INDICES FOR BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+             --------    --------    --------    --------
       AB         .000       7.353       2.643        .281
       SN        6.008        .000       2.371        .488
 INTENTIO         .000        .000        .000        .662
 BEHAVIOU         .898       1.263        .000        .000
0        ESTIMATED CHANGE FOR BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+             --------    --------    --------    --------
       AB         .000        .226        .261       -.019
       SN         .414        .000        .250        .034
 INTENTIO         .000        .000        .000       -.112
 BEHAVIOU        -.322        .238        .000        .000
0        MODIFICATION INDICES FOR GAMMA
0            SUM BES    SUM NBMC
+           --------    --------
       AB       .000       2.405
       SN       .432        .000
 INTENTIO       .043       1.651
 BEHAVIOU       .849       1.280
0        ESTIMATED CHANGE FOR GAMMA
0            SUM BES    SUM NBMC
+           --------    --------
       AB       .000        .046
       SN      -.080        .000
 INTENTIO      -.023       -.081
 BEHAVIOU      -.149        .070
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0        MODIFICATION INDICES FOR THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000       1.651        .662
0        MODIFICATION INDICES FOR THETA EPS
0           ACTUAL B
+           --------
                .000
0        ESTIMATED CHANGE FOR THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000       -.816       2.447
0        ESTIMATED CHANGE FOR THETA EPS
0           ACTUAL B
+           --------
                .000
0NO NON-ZERO MODIFICATION INDICES FOR THETA DELTA
0        MAXIMUM MODIFICATION INDEX IS     7.35 FOR ELEMENT ( 1, 2) OF BETA
-          THE PROBLEM USED    16040 BYTES (=  6.1% OF AVAILABLE WORKSPACE)
-                           TIME USED :     75.0 SECONDS
```

Appendix VII - Descriptive Statistics for Fishbein Constructs for Kitchen Towels

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Number of valid observations (listwise) = 147.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
KTAB1	.68	1.14	-3.00	3.00	157	AB1: Bad - Good
KTAB2	.71	1.00	-2.00	3.00	156	AB2: Beneficial - Harmful
KTAB3	.30	.76	-3.00	3.00	155	AB3: Rewarding - Punishing
KTAB4	.28	.70	-2.00	3.00	155	AB4: Unpleasant - Pleasant
KTBE1	1.29	2.76	-6.00	9.00	156	BE1: Match the Kitchen
KTBE2	3.59	3.94	-9.00	9.00	155	BE2: In Stock
KTBEH	.73	1.19	.00	6.00	177	Actual behaviour
KTBI	1.37	1.89	-3.00	3.00	159	Behavioural Intention
KTNB1	3.48	9.70	-21.00	21.00	153	NB1: Conservationists
KTRESP	168.64	93.77	10.00	334.00	177	Respondent
KTSN	.30	1.03	-3.00	3.00	155	Subjective Norm

Appendix VII - Correlation Matrix for Fishbein Constructs for Kitchen Towels

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- - Correlation Coefficients - -

	KTAB1	KTAB2	KTAB3	KTAB4	KTBE1	KTBE2	KTBEH	KTBI	KTNB1	KTRESP
KTAB1	1.0000 (157) P= .	.4830 (155) P= .000	.6431 (155) P= .000	.5889 (155) P= .000	.1231 (155) P= .127	.3132 (155) P= .000	.1679 (157) P= .036	.4428 (157) P= .000	.1517 (151) P= .063	.0109 (157) P= .892
KTAB2	.4830 (155) P= .000	1.0000 (156) P= .	.4546 (155) P= .000	.4679 (155) P= .000	-.0151 (154) P= .853	.2824 (154) P= .000	.1889 (156) P= .018	.2486 (156) P= .002	.1998 (151) P= .014	.0100 (156) P= .901
KTAB3	.6431 (155) P= .000	.4546 (155) P= .000	1.0000 (155) P= .	.8318 (155) P= .000	.1734 (154) P= .031	.3596 (154) P= .000	.1365 (155) P= .090	.2949 (155) P= .000	.2932 (150) P= .000	.1136 (155) P= .159
KTAB4	.5889 (155) P= .000	.4679 (155) P= .000	.8318 (155) P= .000	1.0000 (155) P= .	.1278 (154) P= .114	.3188 (154) P= .000	.0695 (155) P= .390	.2627 (155) P= .001	.2486 (150) P= .002	.0993 (155) P= .219
KTBE1	.1231 (155) P= .127	-.0151 (154) P= .853	.1734 (154) P= .031	.1278 (154) P= .114	1.0000 (156) P= .	.1260 (154) P= .119	-.0644 (156) P= .424	-.0116 (155) P= .886	.1337 (151) P= .102	.0551 (156) P= .494
KTBE2	.3132 (155) P= .000	.2824 (154) P= .000	.3596 (154) P= .000	.3188 (154) P= .000	.1260 (154) P= .119	1.0000 (155) P= .	.1685 (155) P= .036	.3606 (155) P= .000	.1449 (150) P= .077	.0432 (155) P= .593
KTBEH	.1679 (157) P= .036	.1889 (156) P= .018	.1365 (155) P= .090	.0695 (155) P= .390	-.0644 (156) P= .424	.1685 (155) P= .036	1.0000 (177) P= .	.3260 (159) P= .000	.0332 (153) P= .684	.0286 (177) P= .706
KTBI	.4428 (157) P= .000	.2486 (156) P= .002	.2949 (155) P= .000	.2627 (155) P= .001	-.0116 (155) P= .886	.3606 (155) P= .000	.3260 (159) P= .000	1.0000 (159) P= .	.0768 (152) P= .347	-.0583 (159) P= .466
KTNB1	.1517 (151) P= .063	.1998 (151) P= .014	.2932 (150) P= .000	.2486 (150) P= .002	.1337 (151) P= .102	.1449 (150) P= .077	.0332 (153) P= .684	.0768 (152) P= .347	1.0000 (153) P= .	-.0761 (153) P= .350
KTRESP	.0109 (157) P= .892	.0100 (156) P= .901	.1136 (155) P= .159	.0993 (155) P= .219	.0551 (156) P= .494	.0432 (155) P= .593	.0286 (177) P= .706	-.0583 (159) P= .466	-.0761 (153) P= .350	1.0000 (177) P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Kitchen Towels (cont.)

- - Correlation Coefficients - -

	KTAB1	KTAB2	KTAB3	KTAB4	KTBE1	KTBE2	KTBEH	KTBI	KTNB1	KTRESP
KTSN	.5274 (154) P= .000	.3810 (153) P= .000	.5288 (153) P= .000	.5236 (153) P= .000	.1897 (154) P= .018	.2564 (153) P= .001	.1817 (155) P= .024	.3304 (154) P= .000	.1849 (151) P= .023	.0812 (155) P= .315

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

	KTSN
KTAB1	.5274 (154) P= .000
KTAB2	.3810 (153) P= .000
KTAB3	.5288 (153) P= .000
KTAB4	.5236 (153) P= .000
KTBE1	.1897 (154) P= .018
KTBE2	.2564 (153) P= .001
KTBEH	.1817 (155) P= .024
KTBI	.3304 (154) P= .000

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Correlation Matrix for Fishbein Constructs for Kitchen Towels (cont.)

- - Correlation Coefficients - -

	KTSN
KTNB1	.1849 (151) P= .023
KTRESP	.0812 (155) P= .315
KTSN	1.0000 (155) P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

Appendix VII - Fishbein Model For Kitchen Towels

```
1                             DOS - L I S R E L  7.16
0                                       BY
0                        KARL G JORESKOG AND DAG SORBOM


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                                   (317)-831-6336
```



```
0THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :


 FISHBEIN MODEL FOR TOWELS
 DA NI=10 NO=147    MA=CM
 CM=C:\mainanal\wave3\ktfish.cov
 SE
 2 3 4 5 6 1 10 7 8 9
 MO NY=7 NX=3 NK=2 NE=4 BE=SD PS=DI
 LA
 'Beh Int' 'AB1:Good/bad' 'AB2:Benef/Harm' 'AB3:Rew/Pun'
 'AB4:Unpl/Pleas' 'Subjective Norm' 'BE1:Match' 'BE2:Stock'
 'NB1:Conservationists' 'Actual Behaviour'
 LE
 'Ab' 'Sn' 'Intention' 'Behaviour'/
 LK
 'Sum BEs' 'Sum NBMC'/
 PA LX
 1(0 0) 1(1 0) 1(0 0)
 PA LY
 1(0 0 0 0) 3(1 0 0 0) 3(0 0 0 0)
 FI GA(1,2) GA(2,1) GA(3,1)-GA(4,2)
 FI BE(2,1) BE(4,1) BE(4,2)
 FI TE 6 TE 7 Te 5 td 3
 VA 1 LX(1,1) LX(3,2) LY(1,1) LY(5,2) LY(6,3) LY(7,4)
 VA .1 TE 5
 VA .33 TE 6
 VA .13 TE 7
 VA 9.35 TD 3
 OU ALL AD=30 ME=ML
1FISHBEIN MODEL FOR TOWELS
0                         NUMBER OF INPUT VARIABLES 10
0                         NUMBER OF Y - VARIABLES    7
0                         NUMBER OF X - VARIABLES    3
0                         NUMBER OF ETA - VARIABLES  4
0                         NUMBER OF KSI - VARIABLES  2
0                         NUMBER OF OBSERVATIONS   147
1FISHBEIN MODEL FOR TOWELS
0         COVARIANCE MATRIX TO BE ANALYZED
```

	AB1:GOOD	AB2:BENE	AB3:REW/	AB4:UNPL	SUBJECTI	BEH INT
AB1:GOOD	1.112					
AB2:BENE	.511	.972				
AB3:REW/	.441	.302	.471			
AB4:UNPL	.373	.288	.354	.422		
SUBJECTI	.546	.380	.372	.336	1.032	
BEH INT	.735	.417	.303	.256	.597	3.347
ACTUAL B	.061	.193	.021	-.046	.095	.644
BE1:MATC	.423	-.113	.413	.275	.525	-.040
BE2:STOC	1.475	1.121	1.016	.837	.949	2.585
NB1:CONS	1.682	1.883	2.070	1.673	2.107	1.697

```
0         COVARIANCE MATRIX TO BE ANALYZED
```

	ACTUAL B	BE1:MATC	BE2:STOC	NB1:CONS
ACTUAL B	1.299			
BE1:MATC	-.207	7.676		
BE2:STOC	.693	1.291	14.612	
NB1:CONS	.410	3.511	5.532	93.526

```
1FISHBEIN MODEL FOR TOWELS
0PARAMETER SPECIFICATIONS
0         LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+
 AB1:GOOD          0           0           0           0
 AB2:BENE          1           0           0           0
 AB3:REW/          2           0           0           0
 AB4:UNPL          3           0           0           0
 SUBJECTI          0           0           0           0
  BEH INT          0           0           0           0
 ACTUAL B          0           0           0           0
0         LAMBDA X
0            SUM BES    SUM NBMC
+
 BE1:MATC          0           0
 BE2:STOC          4           0
 NB1:CONS          0           0
0         BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+
       AB          0           0           0           0
       SN          0           0           0           0
 INTENTIO          5           6           0           0
 BEHAVIOU          0           0           7           0
0         GAMMA
0            SUM BES    SUM NBMC
+
       AB          8           0
       SN          0           9
 INTENTIO          0           0
 BEHAVIOU          0           0
0         PHI
0            SUM BES    SUM NBMC
+
  SUM BES         10
 SUM NBMC         11          12
0         PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+
                  13          14          15          16
0         THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+
                  17          18          19          20           0           0
0         THETA EPS
0           ACTUAL B
+
                   0
0         THETA DELTA
0           BE1:MATC    BE2:STOC    NB1:CONS
+
                  21          22           0
1FISHBEIN MODEL FOR TOWELS
0INITIAL ESTIMATES (TSLS)
0         LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+
 AB1:GOOD      1.000        .000        .000        .000
 AB2:BENE       .713        .000        .000        .000
 AB3:REW/       .786        .000        .000        .000
 AB4:UNPL       .713        .000        .000        .000
 SUBJECTI       .000       1.000        .000        .000
  BEH INT       .000        .000       1.000        .000
 ACTUAL B       .000        .000        .000       1.000
0         LAMBDA X
0            SUM BES    SUM NBMC
+
 BE1:MATC      1.000        .000
 BE2:STOC      1.210        .000
 NB1:CONS       .000       1.000
```

```
0        BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
      AB         .000        .000        .000        .000
      SN         .000        .000        .000        .000
 INTENTIO        .721        .244        .000        .000
 BEHAVIOU        .000        .000        .203        .000
0        GAMMA
0            SUM BES     SUM NBMC
+            --------    --------
      AB         .766        .000
      SN         .000        .025
 INTENTIO        .000        .000
 BEHAVIOU        .000        .000
0        COVARIANCE MATRIX OF ETA AND KSI
0                 AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+            --------    --------    --------    --------    --------    --------
      AB         .591
      SN         .079        .932
 INTENTIO        .446        .285       2.865
 BEHAVIOU        .090        .058        .581       1.150
  SUM BES        .817        .104        .614        .125       1.067
 SUM NBMC       3.170       2.107       2.801        .568       4.141      84.176
0        PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
                -.034        .879       2.474       1.032
0        THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------    --------    --------    --------    --------    --------
                 .520        .671        .106        .121        .100        .330
0        THETA EPS
0           ACTUAL B
+            --------
                 .130
0        THETA DELTA
0           BE1:MATC    BE2:STOC    NB1:CONS
+            --------    --------    --------
                6.609      13.049       9.350
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------    --------    --------    --------    --------    --------
                 .532        .309        .775        .712        .903        .897
0        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0           ACTUAL B
+            --------
                 .898
0        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0        SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0           BE1:MATC    BE2:STOC    NB1:CONS
+            --------    --------    --------
                 .139        .107        .900
0        TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .919
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
                1.057        .057        .137        .102
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

1 BEHAVIOR UNDER MINIMIZATION ITERATIONS

	ITER	TRY	ABSCISSA	SLOPE	FUNCTION
0	1	0	.00000000D+00	-.10677732D+00	.44036561D+00
		1	.10000000D+01	.11998133D+00	.41699346D+00
		2	.47088533D+00	-.38846676D-01	.40655301D+00
		3	.60029794D+00	-.18179147D-01	.40281850D+00
		4	.65289071D+00	-.82607549D-02	.40211812D+00
0	2	0	.00000000D+00	-.55927073D-01	.40211812D+00
		1	.65289071D+00	.51078239D-01	.40855113D+00
		2	.34123788D+00	.16443196D-01	.39815363D+00
		3	.26370547D+00	.69034284D-02	.39723802D+00
		4	.23473114D+00	.28224846D-02	.39709626D+00
0	3	0	.00000000D+00	-.11827802D-01	.39709626D+00
		1	.23473114D+00	-.95076534D-02	.39458863D+00
		2	.11966274D+01	.22747195D-02	.39078251D+00
		3	.10109225D+01	-.33367820D-03	.39060512D+00
0	4	0	.00000000D+00	-.25504831D-02	.39060512D+00
		1	.10109225D+01	-.12006778D-02	.38870129D+00
		2	.19101576D+01	.12984197D-03	.38820643D+00
0	5	0	.00000000D+00	-.57685235D-03	.38820643D+00
		1	.19101576D+01	.28503493D-03	.38793462D+00
		2	.12784490D+01	.46207025D-05	.38784293D+00
0	6	0	.00000000D+00	-.10427245D-03	.38784293D+00
		1	.12784490D+01	-.62082827D-04	.38773677D+00
		2	.31597108D+01	-.27401499D-05	.38767626D+00
0	7	0	.00000000D+00	-.68368814D-04	.38767626D+00
		1	.31597108D+01	-.33076032D-04	.38751384D+00
		2	.61209592D+01	.11668473D-04	.38747824D+00
		3	.53487248D+01	-.16006862D-05	.38747444D+00
0	8	0	.00000000D+00	-.54418369D-04	.38747444D+00
		1	.53487248D+01	.24402080D-06	.38733377D+00
0	9	0	.00000000D+00	-.41135342D-04	.38733377D+00
		1	.53487248D+01	.30807232D-04	.38728308D+00
		2	.30582951D+01	-.64561674D-05	.38725747D+00
		3	.34551295D+01	-.82290136D-06	.38725602D+00
0	10	0	.00000000D+00	-.26958707D-04	.38725602D+00
		1	.34551295D+01	-.36928546D-05	.38720324D+00
		2	.40035423D+01	-.55309738D-07	.38720221D+00
0	11	0	.00000000D+00	-.17501451D-04	.38720221D+00
		1	.40035423D+01	-.59898396D-05	.38715483D+00
		2	.60867064D+01	.79181094D-06	.38714927D+00
0	12	0	.00000000D+00	-.11036811D-04	.38714927D+00
		1	.60867064D+01	.20570909D-04	.38717905D+00
		2	.21253614D+01	.17429584D-06	.38713776D+00
0	13	0	.00000000D+00	-.24027450D-05	.38713776D+00
		1	.21253614D+01	.13500250D-05	.38713657D+00
		2	.13607819D+01	-.43289796D-07	.38713608D+00
0	14	0	.00000000D+00	-.33178959D-06	.38713608D+00
		1	.13607819D+01	.27235092D-06	.38713604D+00
		2	.74733157D+00	.81548409D-10	.38713595D+00
0	15	0	.00000000D+00	-.32543908D-07	.38713595D+00
		1	.74733157D+00	-.11485542D-07	.38713594D+00
		2	.11549372D+01	-.50351594D-11	.38713593D+00
0	16	0	.00000000D+00	-.43802439D-08	.38713593D+00
		1	.11549372D+01	-.16222135D-08	.38713593D+00
		2	.18342461D+01	-.10393293D-11	.38713593D+00
0	17	0	.00000000D+00	-.12121193D-08	.38713593D+00
		1	.18342461D+01	-.98421639D-10	.38713593D+00
0	18	0	.00000000D+00	-.85464414D-10	.38713593D+00
		1	.18342461D+01	.48507888D-10	.38713593D+00
		2	.11701133D+01	.19799571D-14	.38713593D+00
0	19	0	.00000000D+00	-.11422462D-11	.38713593D+00
		1	.11701133D+01	.15238651D-12	.38713593D+00
		2	.10323835D+01	-.21155477D-19	.38713593D+00

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

```
1FISHBEIN MODEL FOR TOWELS
0LISREL ESTIMATES (MAXIMUM LIKELIHOOD)
0         LAMBDA Y
0                  AB          SN    INTENTIO    BEHAVIOU
+            ________    ________    ________    ________
 AB1:GOOD       1.000        .000        .000        .000
 AB2:BENE        .729        .000        .000        .000
 AB3:REW/        .886        .000        .000        .000
 AB4:UNPL        .780        .000        .000        .000
 SUBJECTI        .000       1.000        .000        .000
  BEH INT        .000        .000       1.000        .000
 ACTUAL B        .000        .000        .000       1.000
0         LAMBDA X
0             SUM BES    SUM NBMC
+            ________    ________
 BE1:MATC       1.000        .000
 BE2:STOC       2.823        .000
 NB1:CONS        .000       1.000
0         BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+            ________    ________    ________    ________
       AB        .000        .000        .000        .000
       SN        .000        .000        .000        .000
 INTENTIO        .415        .461        .000        .000
 BEHAVIOU        .000        .000        .212        .000
0         GAMMA
0             SUM BES    SUM NBMC
+            ________    ________
       AB        .987        .000
       SN        .000        .027
 INTENTIO        .000        .000
 BEHAVIOU        .000        .000
0         COVARIANCE MATRIX OF ETA AND KSI
0                  AB          SN    INTENTIO    BEHAVIOU     SUM BES    SUM NBMC
+            ________    ________    ________    ________    ________    ________
       AB        .505
       SN        .064        .932
 INTENTIO        .239        .456       2.903
 BEHAVIOU        .051        .097        .615       1.164
  SUM BES        .417        .064        .203        .043        .423
 SUM NBMC       2.321       2.302       2.023        .429       2.353      84.072
0         PSI
0                  AB          SN    INTENTIO    BEHAVIOU
+            ________    ________    ________    ________
                 .093        .869       2.594       1.034
0         THETA EPS
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            ________    ________    ________    ________    ________    ________
                 .607        .704        .075        .115        .100        .330
0         THETA EPS
0            ACTUAL B
+            ________
                 .130
0         THETA DELTA
0            BE1:MATC    BE2:STOC    NB1:CONS
+            ________    ________    ________
                7.253      11.244       9.350
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            ________    ________    ________    ________    ________    ________
                 .454        .276        .841        .728        .903        .898
0         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES
0            ACTUAL B
+            ________
                 .900
0         TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
0         SQUARED MULTIPLE CORRELATIONS FOR X - VARIABLES
0            BE1:MATC    BE2:STOC    NB1:CONS
+            ________    ________    ________
                 .055        .230        .900
0         TOTAL COEFFICIENT OF DETERMINATION FOR X - VARIABLES IS   .923
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

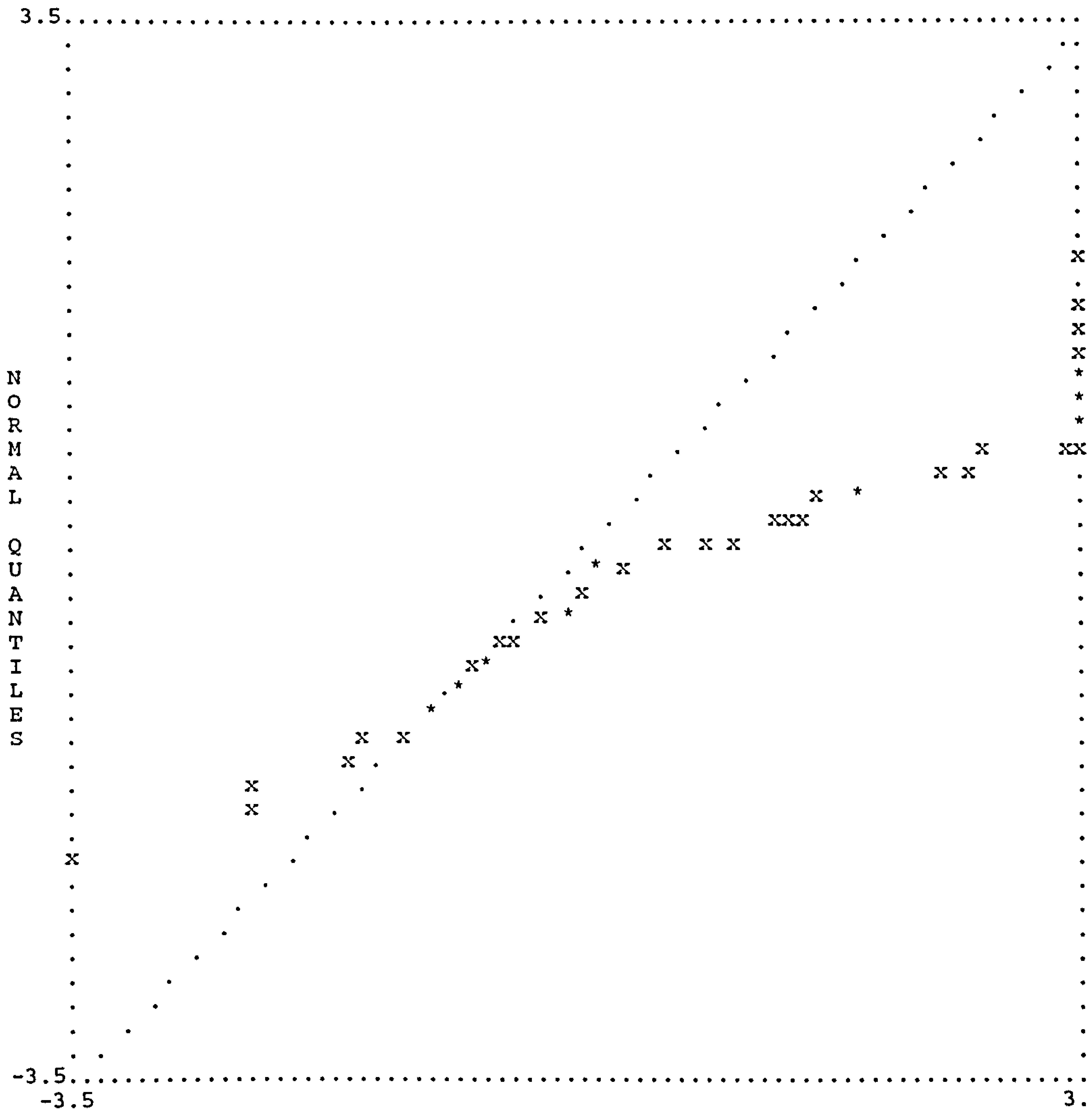
```
0        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS
0                 AB         SN    INTENTIO   BEHAVIOU
+           --------   --------   --------   --------
                .815       .068       .106       .112
0        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS   .826


0         CHI-SQUARE WITH  33 DEGREES OF FREEDOM =   113.04 (P = .000)
0                      GOODNESS OF FIT INDEX = .874
             ADJUSTED GOODNESS OF FIT INDEX = .791
                  ROOT MEAN SQUARE RESIDUAL =      .422
1FISHBEIN MODEL FOR TOWELS
0        FITTED COVARIANCE MATRIX
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+           --------   --------   --------   --------   --------   --------
 AB1:GOOD      1.112
 AB2:BENE       .368       .972
 AB3:REW/       .447       .326       .471
 AB4:UNPL       .394       .287       .349       .422
 SUBJECTI       .064       .046       .056       .050      1.032
  BEH INT       .239       .174       .211       .186       .456      3.233
 ACTUAL B       .051       .037       .045       .039       .097       .615
 BE1:MATC       .417       .304       .369       .325       .064       .203
 BE2:STOC      1.177       .857      1.043       .918       .182       .572
 NB1:CONS      2.321      1.691      2.057      1.810      2.302      2.023
0        FITTED COVARIANCE MATRIX
0           ACTUAL B   BE1:MATC   BE2:STOC   NB1:CONS
+           --------   --------   --------   --------
 ACTUAL B      1.294
 BE1:MATC       .043      7.676
 BE2:STOC       .121      1.193     14.612
 NB1:CONS       .429      2.353      6.642     93.422
0        FITTED RESIDUALS
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+           --------   --------   --------   --------   --------   --------
 AB1:GOOD       .000
 AB2:BENE       .144       .000
 AB3:REW/      -.006      -.024       .000
 AB4:UNPL      -.021       .002       .005       .000
 SUBJECTI       .483       .334       .316       .287       .000
  BEH INT       .496       .243       .092       .070       .141       .114
 ACTUAL B       .010       .156      -.024      -.085      -.002       .029
 BE1:MATC       .006      -.417       .044      -.050       .461      -.243
 BE2:STOC       .298       .264      -.027      -.081       .767      2.013
 NB1:CONS      -.639       .192       .013      -.137      -.195      -.326
0        FITTED RESIDUALS
0           ACTUAL B   BE1:MATC   BE2:STOC   NB1:CONS
+           --------   --------   --------   --------
 ACTUAL B       .005
 BE1:MATC      -.250       .000
 BE2:STOC       .572       .099       .000
 NB1:CONS      -.019      1.159     -1.109       .105
-SUMMARY STATISTICS FOR FITTED RESIDUALS
 SMALLEST FITTED RESIDUAL =    -1.109
   MEDIAN FITTED RESIDUAL =      .005
  LARGEST FITTED RESIDUAL =     2.013
-STEMLEAF PLOT
 - 1|1
 - 0|6
 - 0|4322211110000000000000000000
   0|111111122233333
   0|55568
   1|2
   1|
   2|0
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

```
0         STANDARDIZED RESIDUALS
0            AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+            ________   ________   ________   ________   ________   ________
 AB1:GOOD       .000
 AB2:BENE      2.872       .000
 AB3:REW/      -.827     -2.217       .000
 AB4:UNPL     -1.561       .091      3.416       .000
 SUBJECTI      5.732      4.157      6.019      5.707       .000
  BEH INT      4.467      2.007      2.706      1.535      6.448      6.589
 ACTUAL B       .110      1.722      -.395     -1.482      -.023      4.332
 BE1:MATC       .035     -2.258       .953      -.757      2.008      -.615
 BE2:STOC      1.433      1.142      -.571     -1.049      2.503      4.037
 NB1:CONS     -1.150       .312       .093      -.649     -5.474      -.264
0         STANDARDIZED RESIDUALS
0            ACTUAL B   BE1:MATC   BE2:STOC   NB1:CONS
+            ________   ________   ________   ________
 ACTUAL B      6.627
 BE1:MATC      -.963       .000
 BE2:STOC      1.616       .157       .000
 NB1:CONS      -.021       .632      -.793      6.585
-SUMMARY STATISTICS FOR STANDARDIZED RESIDUALS
 SMALLEST STANDARDIZED RESIDUAL =    -5.474
   MEDIAN STANDARDIZED RESIDUAL =      .093
  LARGEST STANDARDIZED RESIDUAL =     6.627
-STEMLEAF PLOT
 - 4|5
 - 2|32
 - 0|6510088866643000000000
   0|111236014567
   2|005794
   4|023577
   6|04666
-LARGEST NEGATIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR NB1:CONS AND SUBJECTI =  -5.474
-LARGEST POSITIVE STANDARDIZED RESIDUALS
0RESIDUAL FOR AB2:BENE AND AB1:GOOD =   2.872
0RESIDUAL FOR AB4:UNPL AND AB3:REW/ =   3.416
0RESIDUAL FOR SUBJECTI AND AB1:GOOD =   5.732
0RESIDUAL FOR SUBJECTI AND AB2:BENE =   4.157
0RESIDUAL FOR SUBJECTI AND AB3:REW/ =   6.019
0RESIDUAL FOR SUBJECTI AND AB4:UNPL =   5.707
0RESIDUAL FOR  BEH INT AND AB1:GOOD =   4.467
0RESIDUAL FOR  BEH INT AND AB3:REW/ =   2.706
0RESIDUAL FOR  BEH INT AND SUBJECTI =   6.448
0RESIDUAL FOR  BEH INT AND  BEH INT =   6.589
0RESIDUAL FOR ACTUAL B AND  BEH INT =   4.332
0RESIDUAL FOR ACTUAL B AND ACTUAL B =   6.627
0RESIDUAL FOR BE2:STOC AND  BEH INT =   4.037
0RESIDUAL FOR NB1:CONS AND NB1:CONS =   6.585
```

1FISHBEIN MODEL FOR TOWELS
- QPLOT OF STANDARDIZED RESIDUALS



STANDARDIZED RESIDUALS

1FISHBEIN MODEL FOR TOWELS
-STANDARD ERRORS
0 LAMBDA Y

0	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.125	.000	.000	.000
AB3:REW/	.096	.000	.000	.000
AB4:UNPL	.087	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.000	.000	.000	.000
ACTUAL B	.000	.000	.000	.000

0 LAMBDA X

0	SUM BES	SUM NBMC
BE1:MATC	.000	.000
BE2:STOC	1.219	.000
NB1:CONS	.000	.000

```
0          BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+          --------    --------    --------    --------
       AB       .000        .000        .000        .000
       SN       .000        .000        .000        .000
 INTENTIO       .215        .156        .000        .000
 BEHAVIOU       .000        .000        .056        .000
0          GAMMA
0            SUM BES    SUM NBMC
+          --------    --------
       AB       .492        .000
       SN       .000        .009
 INTENTIO       .000        .000
 BEHAVIOU       .000        .000
0          PHI
0            SUM BES    SUM NBMC
+          --------    --------
  SUM BES       .351
 SUM NBMC      1.259      10.934
0          PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+          --------    --------    --------    --------
                .139        .114        .346        .138
0          THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+          --------    --------    --------    --------    --------    --------
                .078        .086        .022        .021        .000        .000
0          THETA EPS
0           ACTUAL B
+          --------
                .000
0          THETA DELTA
0           BE1:MATC    BE2:STOC    NB1:CONS
+          --------    --------    --------
                .870       1.741        .000
1FISHBEIN MODEL FOR TOWELS
0          CORRELATIONS OF ESTIMATES
0             LY 2,1      LY 3,1      LY 4,1      LX 2,1      BE 3,1      BE 3,2
+          --------    --------    --------    --------    --------    --------
   LY 2,1      1.000
   LY 3,1       .501       1.000
   LY 4,1       .485        .746       1.000
   LX 2,1       .000        .000        .000       1.000
   BE 3,1       .105        .166        .160        .000       1.000
   BE 3,2       .000        .001        .000        .000       -.101       1.000
   BE 4,3       .000        .000        .000        .000       -.006       -.010
   GA 1,1      -.109       -.181       -.166        .689       -.036       -.002
   GA 2,2       .000        .000        .000        .000       -.010       -.007
   PH 1,1       .000        .000        .000       -.848        .000        .001
   PH 2,1       .000        .000        .000       -.646       -.000       -.001
   PH 2,2       .000        .000        .000        .000        .000        .000
   PS 1,1      -.073       -.105       -.113        .050       -.024        .003
   PS 2,2       .000        .000        .000        .000        .004       -.037
   PS 3,3       .000        .001        .000        .000       -.020       -.034
   PS 4,4       .000        .000        .000        .000        .000        .000
   TE 1,1       .078        .156        .117        .000        .026        .000
   TE 2,2      -.074        .014       -.001        .000        .000        .000
   TE 3,3      -.005       -.301        .068        .000       -.003       -.003
   TE 4,4       .001        .139       -.170        .000        .000        .001
   TD 1,1       .000        .000        .000        .077        .000       -.000
   TD 2,2       .000        .000        .000       -.103        .000       -.002
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

0 CORRELATIONS OF ESTIMATES

	BE 4,3	GA 1,1	GA 2,2	PH 1,1	PH 2,1	PH 2,2
BE 4,3	1.000					
GA 1,1	.000	1.000				
GA 2,2	.000	-.000	1.000			
PH 1,1	.000	-.915	.000	1.000		
PH 2,1	.000	-.850	-.005	.861	1.000	
PH 2,2	.000	.000	-.038	.020	.219	1.000
PS 1,1	.000	-.549	.000	.291	.467	.000
PS 2,2	.000	.000	-.037	.000	.000	.001
PS 3,3	-.050	.000	.000	.000	.000	.000
PS 4,4	-.050	.000	.000	.000	.000	.000
TE 1,1	.000	-.028	.000	.000	.000	.000
TE 2,2	.000	-.001	.000	.000	.000	.000
TE 3,3	.000	.033	-.000	.000	.000	.000
TE 4,4	.000	-.006	.000	.000	.000	.000
TD 1,1	.000	.140	.000	-.120	-.122	.000
TD 2,2	.000	.319	-.000	-.159	-.256	.000

0 CORRELATIONS OF ESTIMATES

	PS 1,1	PS 2,2	PS 3,3	PS 4,4	TE 1,1	TE 2,2
PS 1,1	1.000					
PS 2,2	-.000	1.000				
PS 3,3	.000	.001	1.000			
PS 4,4	.000	.000	.001	1.000		
TE 1,1	-.016	.000	.000	.000	1.000	
TE 2,2	.001	.000	.000	.000	.002	1.000
TE 3,3	-.035	.000	-.004	.000	-.113	-.049
TE 4,4	.007	.000	.001	.000	.021	.009
TD 1,1	-.117	.000	.000	.000	.000	.000
TD 2,2	-.551	.000	.000	.000	.000	.000

0 CORRELATIONS OF ESTIMATES

	TE 3,3	TE 4,4	TD 1,1	TD 2,2
TE 3,3	1.000			
TE 4,4	-.474	1.000		
TD 1,1	.000	.000	1.000	
TD 2,2	.000	.000	.064	1.000

1FISHBEIN MODEL FOR TOWELS

-T-VALUES

0 LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	5.840	.000	.000	.000
AB3:REW/	9.216	.000	.000	.000
AB4:UNPL	8.958	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.000	.000	.000	.000
ACTUAL B	.000	.000	.000	.000

0 LAMBDA X

	SUM BES	SUM NBMC
BE1:MATC	.000	.000
BE2:STOC	2.316	.000
NB1:CONS	.000	.000

0 BETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	1.931	2.957	.000	.000
BEHAVIOU	.000	.000	3.810	.000

0 GAMMA

	SUM BES	SUM NBMC
AB	2.005	.000
SN	.000	2.915
INTENTIO	.000	.000
BEHAVIOU	.000	.000

```
0        PHI
0            SUM BES    SUM NBMC
+          --------   --------
 SUM BES      1.204
SUM NBMC      1.868      7.689
0        PSI
0                AB          SN   INTENTIO   BEHAVIOU
+          --------   --------   --------   --------
               .671      7.608      7.504      7.495
0        THETA EPS
0           AB1:GOOD   AB2:BENE   AB3:REW/   AB4:UNPL   SUBJECTI    BEH INT
+          --------   --------   --------   --------   --------   --------
              7.748      8.194      3.345      5.418       .000       .000
0        THETA EPS
0           ACTUAL B
+          --------
               .000
0        THETA DELTA
0           BE1:MATC   BE2:STOC   NB1:CONS
+          --------   --------   --------
              8.334      6.460       .000
1FISHBEIN MODEL FOR TOWELS
-TOTAL AND INDIRECT EFFECTS
0        TOTAL EFFECTS OF KSI ON  ETA
0            SUM BES    SUM NBMC
+          --------   --------
      AB       .987       .000
      SN       .000       .027
INTENTIO       .409       .013
BEHAVIOU       .087       .003
0        STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON  ETA
0            SUM BES    SUM NBMC
+          --------   --------
      AB       .492       .000
      SN       .000       .009
INTENTIO       .289       .006
BEHAVIOU       .065       .001
0        INDIRECT EFFECTS OF KSI ON  ETA
0            SUM BES    SUM NBMC
+          --------   --------
      AB       .000       .000
      SN       .000       .000
INTENTIO       .409       .013
BEHAVIOU       .087       .003
0        STANDARD ERRORS FOR INDIRECT EFFECTS OF KSI ON  ETA
0            SUM BES    SUM NBMC
+          --------   --------
      AB       .000       .000
      SN       .000       .000
INTENTIO       .289       .006
BEHAVIOU       .065       .001
0        TOTAL EFFECTS OF ETA ON  ETA
0                AB          SN   INTENTIO   BEHAVIOU
+          --------   --------   --------   --------
      AB       .000       .000       .000       .000
      SN       .000       .000       .000       .000
INTENTIO       .415       .461       .000       .000
BEHAVIOU       .088       .098       .212       .000
0   LARGEST EIGENVALUE OF B*B' (STABILITY INDEX) IS    .384
0        STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON  ETA
0                AB          SN   INTENTIO   BEHAVIOU
+          --------   --------   --------   --------
      AB       .000       .000       .000       .000
      SN       .000       .000       .000       .000
INTENTIO       .215       .156       .000       .000
BEHAVIOU       .051       .042       .056       .000
0        INDIRECT EFFECTS OF ETA ON  ETA
0                AB          SN   INTENTIO   BEHAVIOU
+          --------   --------   --------   --------
      AB       .000       .000       .000       .000
      SN       .000       .000       .000       .000
INTENTIO       .000       .000       .000       .000
BEHAVIOU       .088       .098       .000       .000
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON ETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	.000	.000	.000
SN	.000	.000	.000	.000
INTENTIO	.000	.000	.000	.000
BEHAVIOU	.051	.042	.000	.000

0 TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	1.000	.000	.000	.000
AB2:BENE	.729	.000	.000	.000
AB3:REW/	.886	.000	.000	.000
AB4:UNPL	.780	.000	.000	.000
SUBJECTI	.000	1.000	.000	.000
BEH INT	.415	.461	1.000	.000
ACTUAL B	.088	.098	.212	1.000

0 STANDARD ERRORS FOR TOTAL EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.125	.000	.000	.000
AB3:REW/	.096	.000	.000	.000
AB4:UNPL	.087	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.215	.156	.000	.000
ACTUAL B	.051	.042	.056	.000

0 INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.415	.461	.000	.000
ACTUAL B	.088	.098	.212	.000

0 STANDARD ERRORS FOR INDIRECT EFFECTS OF ETA ON Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.000	.000	.000
AB2:BENE	.000	.000	.000	.000
AB3:REW/	.000	.000	.000	.000
AB4:UNPL	.000	.000	.000	.000
SUBJECTI	.000	.000	.000	.000
BEH INT	.215	.156	.000	.000
ACTUAL B	.051	.042	.056	.000

0 TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.987	.000
AB2:BENE	.719	.000
AB3:REW/	.874	.000
AB4:UNPL	.769	.000
SUBJECTI	.000	.027
BEH INT	.409	.013
ACTUAL B	.087	.003

0 STANDARD ERRORS FOR TOTAL EFFECTS OF KSI ON Y

	SUM BES	SUM NBMC
AB1:GOOD	.492	.000
AB2:BENE	.366	.000
AB3:REW/	.429	.000
AB4:UNPL	.379	.000
SUBJECTI	.000	.009
BEH INT	.289	.006
ACTUAL B	.065	.001

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

```
1FISHBEIN MODEL FOR TOWELS
-COVARIANCES
0         Y - ETA
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------    --------    --------    --------    --------    --------
      AB         .505        .368        .447        .394        .064        .239
      SN         .064        .046        .056        .050        .932        .456
 INTENTIO        .239        .174        .211        .186        .456       2.903
 BEHAVIOU        .051        .037        .045        .039        .097        .615
0         Y - ETA
0            ACTUAL B
+            --------
      AB         .051
      SN         .097
 INTENTIO        .615
 BEHAVIOU       1.164
0         Y - KSI
0            AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------    --------    --------    --------    --------    --------
  SUM BES        .417        .304        .369        .325        .064        .203
 SUM NBMC       2.321       1.691       2.057       1.810       2.302       2.023
0         Y - KSI
0            ACTUAL B
+            --------
  SUM BES        .043
 SUM NBMC        .429
0         X - ETA
0            BE1:MATC    BE2:STOC    NB1:CONS
+            --------    --------    --------
      AB         .417       1.177       2.321
      SN         .064        .182       2.302
 INTENTIO        .203        .572       2.023
 BEHAVIOU        .043        .121        .429
0         X - KSI
0            BE1:MATC    BE2:STOC    NB1:CONS
+            --------    --------    --------
  SUM BES        .423       1.193       2.353
 SUM NBMC       2.353       6.642      84.072
1FISHBEIN MODEL FOR TOWELS
-FIRST ORDER DERIVATIVES
0         LAMBDA Y
0                  AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
 AB1:GOOD        .000       -.223       -.527       -.069
 AB2:BENE        .000       -.117       -.194       -.227
 AB3:REW/        .000       -.223        .387       -.007
 AB4:UNPL        .000       -.194        .330        .496
 SUBJECTI       -.345        .000       -.148        .003
  BEH INT       -.011       -.005        .000       -.013
 ACTUAL B        .050        .024        .000        .000
0         LAMBDA X
0             SUM BES    SUM NBMC
+            --------    --------
 BE1:MATC        .000       -.155
 BE2:STOC        .000        .070
 NB1:CONS        .008        .000
0         BETA
0                  AB          SN    INTENTIO    BEHAVIOU
+            --------    --------    --------    --------
      AB         .000       -.658       -.068        .140
      SN        -.345        .000       -.148       -.003
 INTENTIO        .000        .000        .000       -.013
 BEHAVIOU        .050        .024        .000        .000
0         GAMMA
0             SUM BES    SUM NBMC
+            --------    --------
      AB         .000       -.044
      SN        -.279        .000
 INTENTIO       -.009        .057
 BEHAVIOU        .036       -.005
```

Appendix VII - Fishbein Model For Kitchen Towels (cont.)

```
0         PHI
0            SUM BES    SUM NBMC
+           --------    --------
 SUM BES        .000
SUM NBMC        .000        .000
0         PSI
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
                .000        .000        .000        .000
0         THETA EPS
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
                .000        .000        .000        .000        .001        .003
0         THETA EPS
0           ACTUAL B
+           --------
                .000
0         THETA DELTA
0           BE1:MATC    BE2:STOC    NB1:CONS
+           --------    --------    --------
                .000        .000       -.001
1FISHBEIN MODEL FOR TOWELS
-FACTOR SCORES REGRESSIONS
0         ETA
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
      AB        .079        .049        .563        .324       -.002        .007
      SN       -.000       -.000       -.003       -.001        .892        .014
INTENTIO        .004        .002        .026        .015        .046        .878
BEHAVIOU        .000        .000        .001        .000        .001        .021
0         ETA
0           ACTUAL B    BE1:MATC    BE2:STOC    NB1:CONS
+           --------    --------    --------    --------
      AB        .000        .005        .009        .002
      SN        .001        .000        .000        .002
INTENTIO        .053        .000        .000        .000
BEHAVIOU        .890        .000        .000        .000
0         KSI
0           AB1:GOOD    AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+           --------    --------    --------    --------    --------    --------
 SUM BES        .059        .037        .424        .244       -.000        .005
SUM NBMC        .038        .024        .272        .157        .230        .007
0         KSI
0           ACTUAL B    BE1:MATC    BE2:STOC    NB1:CONS
+           --------    --------    --------    --------
 SUM BES        .000        .014        .025        .007
SUM NBMC        .000        .009        .016        .882
1FISHBEIN MODEL FOR TOWELS
-STANDARDIZED SOLUTION
0         LAMBDA Y
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
AB1:GOOD        .710        .000        .000        .000
AB2:BENE        .518        .000        .000        .000
AB3:REW/        .630        .000        .000        .000
AB4:UNPL        .554        .000        .000        .000
SUBJECTI        .000        .965        .000        .000
 BEH INT        .000        .000       1.704        .000
ACTUAL B        .000        .000        .000       1.079
0         LAMBDA X
0            SUM BES    SUM NBMC
+           --------    --------
BE1:MATC        .650        .000
BE2:STOC       1.835        .000
NB1:CONS        .000       9.169
0         BETA
0                 AB          SN    INTENTIO    BEHAVIOU
+           --------    --------    --------    --------
      AB        .000        .000        .000        .000
      SN        .000        .000        .000        .000
INTENTIO        .173        .261        .000        .000
BEHAVIOU        .000        .000        .335        .000
```

0 GAMMA

	SUM BES	SUM NBMC
AB	.903	.000
SN	.000	.260
INTENTIO	.000	.000
BEHAVIOU	.000	.000

0 CORRELATION MATRIX OF ETA AND KSI

	AB	SN	INTENTIO	BEHAVIOU	SUM BES	SUM NBMC
AB	1.000					
SN	.093	1.000				
INTENTIO	.197	.277	1.000			
BEHAVIOU	.066	.093	.335	1.000		
SUM BES	.903	.103	.183	.061	1.000	
SUM NBMC	.356	.260	.130	.043	.395	1.000

0 PSI

AB	SN	INTENTIO	BEHAVIOU
.185	.932	.894	.888

0 REGRESSION MATRIX ETA ON KSI (STANDARDIZED)

	SUM BES	SUM NBMC
AB	.903	.000
SN	.000	.260
INTENTIO	.156	.068
BEHAVIOU	.052	.023

1FISHBEIN MODEL FOR TOWELS

-MODIFICATION INDICES AND ESTIMATED CHANGE

0 MODIFICATION INDICES FOR LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	5.744	10.842	.445
AB2:BENE	.000	1.765	1.613	5.298
AB3:REW/	.000	1.332	1.488	.001
AB4:UNPL	.000	1.017	1.028	5.322
SUBJECTI	43.892	.000	15.479	.001
BEH INT	.972	.127	.000	.696
ACTUAL B	.973	.127	.000	.000

0 ESTIMATED CHANGE FOR LAMBDA Y

	AB	SN	INTENTIO	BEHAVIOU
AB1:GOOD	.000	.176	.141	.044
AB2:BENE	.000	.103	.057	.160
AB3:REW/	.000	.041	-.026	.001
AB4:UNPL	.000	.036	-.021	-.073
SUBJECTI	.870	.000	.717	-.003
BEH INT	.633	.173	.000	.379
ACTUAL B	-.134	-.037	.000	.000

0 MODIFICATION INDICES FOR LAMBDA X

	SUM BES	SUM NBMC
BE1:MATC	.000	.480
BE2:STOC	.000	.409
NB1:CONS	43.362	.000

0 ESTIMATED CHANGE FOR LAMBDA X

	SUM BES	SUM NBMC
BE1:MATC	.000	.021
BE2:STOC	.000	-.040
NB1:CONS	-38.940	.000

0 MODIFICATION INDICES FOR BETA

	AB	SN	INTENTIO	BEHAVIOU
AB	.000	34.011	.331	1.288
SN	43.892	.000	15.479	.001
INTENTIO	.000	.000	.000	.696
BEHAVIOU	.973	.127	.000	.000

```
0         ESTIMATED CHANGE FOR BETA
0                  AB           SN    INTENTIO    BEHAVIOU
+            --------     --------    --------    --------
       AB        .000         .354        .033       -.063
       SN        .870         .000        .717        .003
 INTENTIO        .000         .000        .000        .379
 BEHAVIOU       -.134        -.037        .000        .000
0         MODIFICATION INDICES FOR GAMMA
0             SUM BES     SUM NBMC
+            --------     --------
       AB        .000         .025
       SN      43.362         .000
 INTENTIO       4.895         .023
 BEHAVIOU        .728         .000
0         ESTIMATED CHANGE FOR GAMMA
0             SUM BES     SUM NBMC
+            --------     --------
       AB        .000         .004
       SN       1.066         .000
 INTENTIO       3.917        -.003
 BEHAVIOU       -.138         .000
0NO NON-ZERO MODIFICATION INDICES FOR PHI
0NO NON-ZERO MODIFICATION INDICES FOR PSI
0         MODIFICATION INDICES FOR THETA EPS
0            AB1:GOOD     AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------     --------    --------    --------    --------    --------
                 .000         .000        .000        .000        .023        .696
0         MODIFICATION INDICES FOR THETA EPS
0            ACTUAL B
+            --------
                 .000
0         ESTIMATED CHANGE FOR THETA EPS
0            AB1:GOOD     AB2:BENE    AB3:REW/    AB4:UNPL    SUBJECTI     BEH INT
+            --------     --------    --------    --------    --------    --------
                 .000         .000        .000        .000       -.193      -1.848
0         ESTIMATED CHANGE FOR THETA EPS
0            ACTUAL B
+            --------
                 .000
0         MODIFICATION INDICES FOR THETA DELTA
0            BE1:MATC     BE2:STOC    NB1:CONS
+            --------     --------    --------
                 .000         .000      43.362
0         ESTIMATED CHANGE FOR THETA DELTA
0            BE1:MATC     BE2:STOC    NB1:CONS
+            --------     --------    --------
                 .000         .000     496.333
0        MAXIMUM MODIFICATION INDEX IS   43.89 FOR ELEMENT ( 5, 1) OF LAMBDA Y
-          THE PROBLEM USED     12768 BYTES (=  4.9% OF AVAILABLE WORKSPACE)
-                           TIME USED :     58.2 SECONDS
```